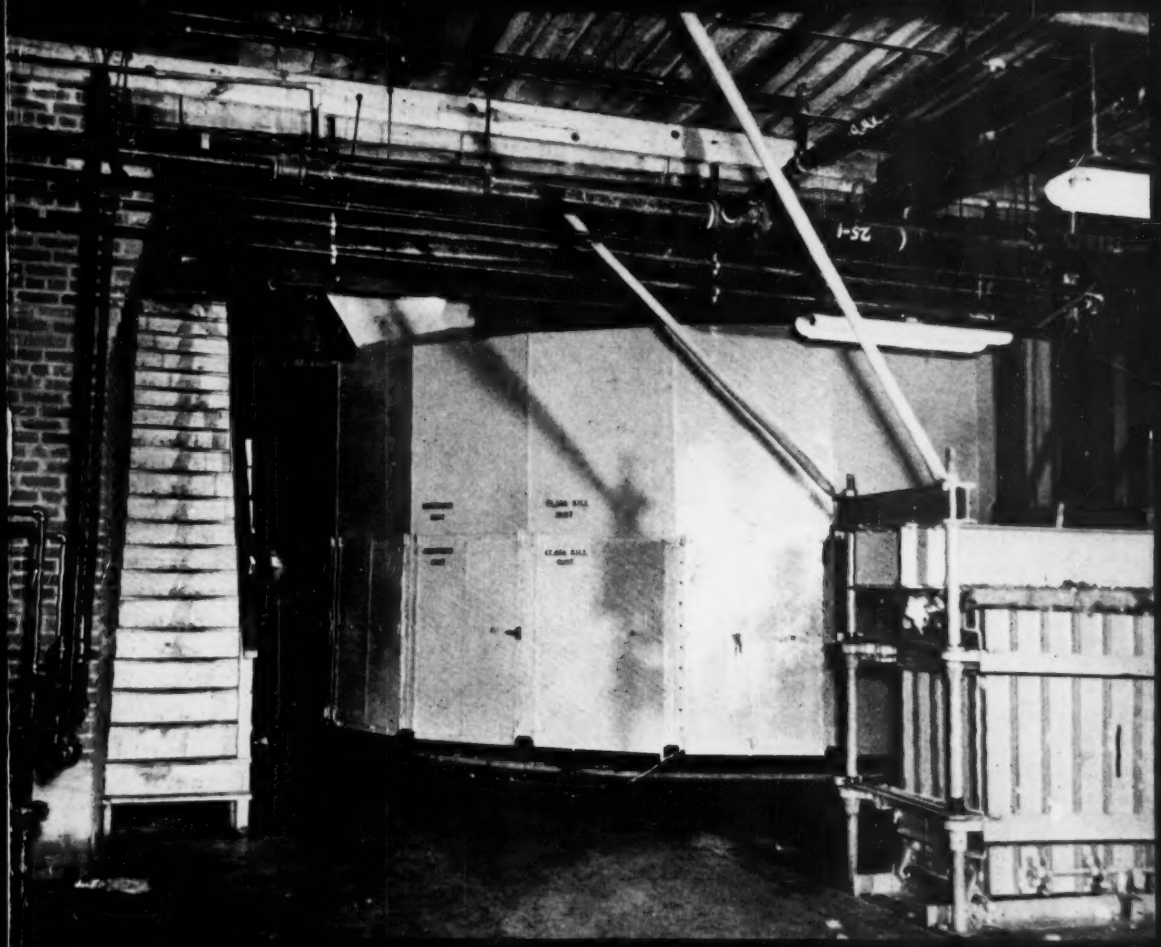
TEXTILE WORLD

A McGraw-Hill Publication ..... JULY • 1949



Unique Carousel Cuts Waste-Handling Cost

Page 100

Fulton Study Relates VISION and EFFICIENCY

A definite relationship can be shown between visual ability and job performance, earnings, accidents, and attendance—Read what one mill found out about eye tests, starting on page 101.

WARPWISE DEFECTS May Be Caused by Temples

Increased use of temples for rayon weaving makes attention to roll maintenance important—A discussion of barré marks, cloth-narrowing, and other difficulties will be found on page 131.

Clean White Effects Attainable In DISCHARGE PRINTING

Difficulties in production of white- and color-discharge styles on dyed grounds are diagnosed for both diazotized and developed direct dyes and fast-to-light direct dyes—See page 139.

Put it in print with VAT COLORS

Du Pont vat color pastes for printing cottons and rayons—PONSOL* and LEUCOSOL* colors (anthraquinone-type dyes)...SULFANTHRENE* colors (thioindigoid-type dyes).

The physical properties of these products are especially controlled to yield a full range of shades in printing. They offer the best all-round fastness obtainable...help assure customer satisfaction. E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Div., Wilmington 98, Del.

*Reg. U. S. Pat. Off.

Du Pont Dyestuffs

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

TEXTILE WORLD. Vol. 99, No. 7, July 1949. Published monthly McGraw-Hill Publishing Co., Inc. (Bragdon, Lord & Nagle Division). Publication Office, 99-129 North Broadway, Albany, N. Y. RETURN POSTAGE GUARANTEED. Editorial and Executive Office, 330 W. 42nd Street, New York 18, N. Y. Allow at least ten days for change of address.
Subscriptions: United States and possessions, $2.00 a year, $3.00 for two years, $4.00 for three years. Canada, $3.00 for one year, $5.00 for two years, $6.00 for three years. Latin American countries, $10.00 for one year, $16.00 for two years, $20.00 for three years. All other countries $15.00 for one year, $25.00 for two years, $30.00 for three years. Please indicate position and company connection on all subscription orders. Entered as second class matter August 29, 1936, at Post office, Albany, N. Y., under the act of March 3, 1879. Printed in U.S.A. Thirty-five cents per copy.

Improved Draper repair parts will help you increase your production by reducing loom stoppages and stepping up efficiency.

Ask a Draper salesman to show you the latest improved parts each time he comes around.

DRAPER CORPORATION

Atlanta, Ga. Hopedale, Massachusetts Spartanburg, S.C.

2 WORLD'S LARGEST SINGLE-UNIT SULPHURIC ACID PLANTS...

With the acquisition of Standard Wholesale Acid and Phosphate Works, and Southern Acid & Sulphur Company, Inc., Mathieson now operates the *two largest single-unit sulphuric acid plants in the world* . . . adds *another* basic product to its growing list of industrial chemicals.

With other strategically located producing units, these plants form a network of supply centers which enables Mathieson to provide an even greater service to the chemical consuming industries. Mathieson Chemical Corporation, 60 East 42nd Street, New York 17, N. Y.

Mathieson CHEMICALS

Sulphuric Acid . . . Caustic Soda . . . Soda Ash . . . Bicarbonate of Soda . . . Liquid Chlorine . . . Chlorine Dioxide . . . Ammonia, Anhydrous & Aqua . . . HTH Products . . . Dry Ice . . . Carbonic Gas . . . Sodium Chlorite Products . . . Sodium Methylate

owned and operated by MATHIESON

TABLE OF Contents

TEXTILE WORLD

Vol. 99 - No. 7
July, 1949
PUBLISHED MONTHLY
A McGraw-Hill Publication

Edwin D. Fowle ..... Publisher
C. W. Bendigo ..... Editor-in-Chief
William A. Newell ..... Managing Editor
Prentice M. Thomas ..... Associate Editor
Richard C. Scott ..... Assistant Editor
Earle Mauldin ..... Southern Editor (Atlanta)
C. M. Bowden ..... Southern Editor (Charlotte)
E. H. Helliwell ..... N. E. Editor (Salem, Mass.)
H. S. Knowlton ..... Contributing Editor (Boston)
Russell E. Anderson ..... World News Director
George Doying ..... Chief Washington Bureau
Robert McK. Fink ..... Art Director
Dexter Keezer ..... Economics Director

Consulting Editors

C. Norris Rabold ..... Finishing
Francois E. Cleyn ..... Worsted Spinning
Gustav Zellnik ..... Woolen Spinning
John Dalton ..... Wool Chemistry
Eugene P. Schremp ..... Weaving
C. P. Wood ..... Engineering
H. B. LeFeaux ..... Knitting
Glenn Gardiner ..... Human Relations

William Buxman ..... Manager
W. B. Dall ..... Assistant to Manager

SUBSCRIPTIONS: United States and Possessions, $2.00 for one year, $3.00 for two years, $4.00 for three years. Canada, $3.00 for one year, $5.00 for two years, $6.00 for three years. Latin American countries $10.00 for one year, $16.00 for two years, $20.00 for three years. All other countries, $15.00 for one year, $25.000 for two years, $30.00 for three years. Single copy 35c. Circulation restricted primarily to textile-mill executives. Please state position and mill. Annual index supplied on request.

PUBLICATION OFFICE, 99 N. Broadway, Albany 1, N. Y. EDITORIAL AND EXECUTIVE OFFICES, 330 W. 42nd Street, New York 18, N. Y.—JAMES H. McGRAW (1860-1948) *Founder*; JAMES H. McGRAW, JR., *President*; CURTIS W. McGRAW, *vice President and Treasurer*; HENRY G. LORD, *Vice President*; JOSEPH A. GERARDI, *Secretary*; EUGENE DUFFIELD, *Senior Vice President Publication Division*; NELSON BOND, *Vice President and Director of Advertising*; J. E. BLACKBURN, JR., *Vice President and Director of Circulation*.

DISTRICT OFFICES — *ATLANTA* 3, Earle Mauldin, Southern Editor, 1311 Rhodes-Haverty Building; *BOSTON* 16, Ralph L. Chisholm, Dist. Mgr., 1427 Statler Building; *CHICAGO* 11, M. C. MacKenzie, Dist. Mgr., 520 North Michigan Ave.; *NEW YORK* 18, Arch W. Fisher and John C. White, Jr., Dist. Mgrs., 330 West 42nd St.; *PHILADELPHIA* 3, H. C. Harvey, Dist. Mgr., Architects Bldg., 17th and Sansom Sts.; *PITTSBURGH* 22, John G. Sabella, Dist. Mgr., 738-9 Oliver Building; *TRYON*, N. C., Wm. G. Ashmore, Dist. Mgr., P. O. Box 1337; *WASHINGTON* 4, National Press Building; *LONDON* WC2, Aldwych House.

Of this issue 24,168 copies were printed.
Member of Audit Bureau of Circulations
Member of Associated Business Papers, Inc.

Contents copyrighted 1949, by McGraw-Hill Publishing Co. (All rights reserved)

CLASSIFIED ACCORDING TO READER INTEREST

◀ MILL DEPARTMENTS — FIBER DIVISIONS ▶

Yarn Manufacture	Weaving	Knitting	Finishing	Engineering	Miscellaneous			Cotton	Synthetics	Wool	
						FEATURE ARTICLES					
Y	W	K	F	E	M	RESPONSIBILITIES Gravitate (Editorial)	4	C		W	K
Y	W	K	F		M	Study Relates VISION and EFFICIENCY	97	C		W	K
Y	W	K	F	E	M	Carousel Cuts WASTE-HANDLING Costs	100	C		W	K
		K	F			HALF-HOSE DYEHOUSE Is Versatile	104	C		W	
Y						SPINNING Practices Given by Mill Men	106	C			
Y	W	K	F	E	M	Textile PACKED in Transparent Materials	108	C		W	K
Y						NON-LUBRICATED ROLLS Attack Costs	110	C			
			F	E		Heat-Transfer Principles Improve DRYING	112	C		W	K
Y	W	K	F	E	M	MODERN EQUIPMENT Rejuvenates Mill	114	C		W	K
				E		More STEAM by Improving Pulverizer	117	C		W	K
Y	W					Reduce RAYON TENSION at High Humidities	118				
		K				Simple Shape for PATTERN AREA	120	C		W	K
	W					Improved CARPET LOOMS Boost Production	125			W	
Y						Shirley HIGH-DRAFT Needs Little Setting	127	C			
		K				Yield Chart Gives KNITTING DATA	129	C		W	
	W					Temples May Cause WARPWISE DEFECTS	131				
			F			WOOL-JERSEY FINISHING Techniques	133	C			
Y	W	K	F	E	M	Why a PENSION PLAN?	135	C		W	K
			F			White Effects in Discharge PRINTING	137	C			
						KINKS AND SHORT-CUTS					
		K			M	DANGLER Corrects Rib Press-Offs	158	C		W	K
Y	W	K	F	E	M	Prevent WOOD DECAY	159	C		W	K
Y						Bramwell FEED BOX Feeds Under Pressure	159	C		W	
Y	W	K	F	E	M	Keeping Check on BROOMS	159	C		W	K
Y	W	K	F	E	M	Holding CASE for Rule	160	C		W	K
	W					Warp PIECE-UP ENDS Held Lengthwise	160	C		W	
Y						TENSOMETER Creates, Measures Tension	160	C		W	
	W					FILLING Held Off Race by Bristles	160	C		W	
Y	W	K		E	M	Counting FILAMENTS	161				
Y						Inclined CONVEYOR Made for Roto-Coner	161	C		W	
		K				Saw Blade Repairs Chatter-Marked CAMS	161	C		W	
	W					GUARD Saves Narrow-Fabric Shuttles	161	C			
	W					Waxed Race-Plate COVER	161	C		W	
						IN OTHER DEPARTMENTS					
	W					SHUTTLES Refinished Accurately	141	C		W	K
Y	W		F			RANDOM-WEB Machine Uses Short Fiber	141	C			
	W					Static ELIMINATOR Uses Low Voltage	141	C		W	
			F			Cover Moves in Tracks on DYE JIG	142	C		W	
	W					Improved SHUTTLE EYES Offered	142	C			
		K				Records HOSIERY Stretch and Recovery	142	C		W	
			F			Steel TRUCK Has Yarn-Proof Wheels	144	C		W	
						FEEDER LINE Has Improved Features	144	C		W	
						OILER Is Electrically Operated	144	C		W	
Y	W		F	E	M	Reiner Has 66-Gage TWIN KNITTER	146	C		W	
	W					Compensator Holds WARPING TENSION	146	C			
Y						Electron MICROMETER Records Variations	146	C		W	
				E		LIFT TRUCK Operates in 6-Ft. Aisles	148	C		W	
Y						German CARD Has Interesting Features	148			W	
		K				Rubber PADS Dampen Machine Vibration	148	C		W	
Y	W		F	E	M	Finer DISPERSION Gives Stability	148	C		W	
			F			Seven FINISHING Units Announced	150	C		W	
			F			Seven-Tank Machine Has NIP DRIVES	152	C		W	
Y	W		F	E	M	Check TIME STUDY Results Quickly	163	C		W	
Y	W		F	E	M	EDITORIAL SQUAWK Aired at Conference	163	C		W	
Y			F			RECOMB WOOL After Top-Dyeing?	166			W	
			F			CALENDER Should Be Started Properly	170				
			F			REPEAT DESIGNS Printed With Roller	172	C			
	W				M	Moving DROP-WIRES Seldom Need Cleaning	178	C			
	W					Eight-Harness Small-Diamond PATTERN	178	C		W	
Y			F			Mineral and Vegetable OILS Preferred	180				

DEPARTMENTS

Editorial	4
Free for the Asking	174
Kinks and Short-Cuts	158
New Dyes and Chemicals	226
News About Men	250
News About Mills	244
News About Suppliers	238
News of the Month	233
Pointers for Supervisors	157
Questions and Answers	170
Reader Service	173
Reviews of Books	230
Round Table	163
Textile Calendar	233
Textile Equipment News	141

THE Long-Range VIEW

"Responsibilities gravitate to the person who can shoulder them, and power flows to the man who knows how."
Elbert Hubbard

Some of our editors, in their investigations of advanced technology, are being astounded at the interest of union men in technical developments. It seems the unions are compiling a textile workers' manual on the details of mill operation. They are investigating all sorts of angles even beyond details of determining work loads. You may recall our news item about one union publication on air conditioning [T.W. Nov., '48, p. 284]. This example covers only a tiny phase of their activities.

Sound technical education of textile employees is to be commended; but we must bear in mind that education by unions is bound to be slanted toward union objectives.

Most of the union investigations stem from interest in elements affecting workers' jobs, such as wage incentives, new machines and methods, and "fringe benefits." The investigations are written up for use by union men in contacts both with mill managements and with legislators. Some mill operators have been surprised at the extensive information that has been accumulated by unions—and some legislators have been impressed.

What is the long-range significance of the accumulation and use of technical and management data by unions? It is entirely possible that more and more details of textile plant operation will be handled by union men. There have been great inroads along this line in garment manufacturing; in the textile industry there have been a few—such as having union members make or check time studies.

In textile-mill operation there has been a noticeable shift toward supervisors who know how to get along with their workers. We have seen instances of supervisors who maintained cordial relations with their workers but whose technical information was dismally poor. Actually, in some cases, workers had better technical understanding of textile operations than did their supervisors.

We constantly find mill supervisors who know virtually nothing about textile operations beyond their immediate jobs. We shall not debate here the responsibility for such conditions but rather shall try to point out what can be done to solve this problem of lack of information on the part of some supervisors in the face of increasing information of union men.

What can you, as top management, do about this problem? The solution is not simple; it requires a two-fold program. The first part is to develop the ability of your supervisory force, and the second is to refuse to surrender any management functions. Both parts are the responsibility of top management.

Note that we said *to develop* supervisory ability; you cannot rely on other plants or the textile schools to do that for you. There never will be enough good men to go around. You must set up a program that will provide time on the job for your key men to learn more about their jobs. The program must also provide incentives for them to develop themselves during part of their time off the job.

Perhaps if you will evaluate your demands, you will find it more profitable to encourage subordinates to think out and solve problems for themselves than to try to give them instructions that are too precise. For example, you may plan to cut costs by use of new machines or a new layout of work. In such a case, first ask the supervisor involved for his recommendations to achieve the desired result. If his recommendations are good, you are well served; if not, you have an opportunity to straighten out his thinking. There are many more ways to develop men on the job, including visits to other departments, meetings (if well done), and conferences with your better staff members.

Off the job, your key men can be encouraged to take formal courses by correspondence or in night schools if you will give at least token financial assistance. We of TEXTILE WORLD feel strongly that much can be learned from both the editorial and advertising pages of good technical journals. Some of the newer textile books available are also good sources of information, as is the literature from many suppliers to our industry.

Both on and off the job, consultants or engineers can often be used to advantage. Such men can be hired to supplement your own staff and can be used to train members of your organization. They can be used to fill a vacancy that might otherwise become occupied by tenants more difficult to dislodge.

It always has been profitable to have a competent staff of supervisors and technical men in our competitive industry. The new aspect we are trying to point out here is that if mill management doesn't have capable men it may become outsmarted by persons other than competitors.

C. H. Bendigo

Use PAPER carriers for better yarn control

Because yarn carriers are such a small item of mill cost, their importance does not always receive full recognition . . . until a mill gives **paper** bobbins a thorough trial. When this is done, the results speak for themselves: smoother running and larger packages, more perfect yarn. Remember—A.P.T. carriers are synthetic products, capable of infinite variation to suit your mill conditions exactly. They stand out as an established and growing trend, because they stand out in better performance. (Every A.P.T. order tailor-made to your specific mill conditions.)

A. P. T. FEATURES

1. SURFACE of correct texture, groove and finish for free but controlled delivery of the particular yarn.

2 STRUCTURE by nature resilient and proof against chipping, splintering or cracking; of composition and hardness for the particular need, with light weight.

3 MOISTURE RESISTANT due to impregnation; of fibre construction inert to warping and distortion.

4. UNIQUE DURABILITY; retain their "brand new" degree of performance throughout their years of life. They do not "wear out" or diminish in efficiency from normal use.

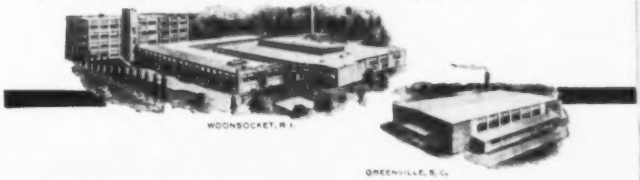
Think it over . . . Let's talk it over

American Paper Tube Co.

ESTABLISHED 1898

WOONSOCKET, R. I. GREENVILLE, S. C.

CANADIAN REPRESENTATIVE, HUGH WILLIAMS & CO., TORONTO, CANADA



Processing—the Vital Chapter in every Fabric's Success Story

The importance of processing is a familiar story to textile experts, for they know, from years of experience, how proper processing can give fine fabrics the extra "plus" that means extra sales.

That explains why so many of America's leading mills, converters, finishers and dyers have turned to Colgate-Palmolive-Peet for high-quality wetting, fulling, scouring and dispersing agents.

Remember, there is a C. P. P. soap or synthetic detergent for every type of fabric —for every processing problem. Ask your local Colgate-Palmolive-Peet representative for details. Or, write today to Industrial Department, Colgate-Palmolive-Peet Co.

Made of imported French yarn, two ply both ways, this 100% worsted comes in gray, tan, brown, and blue.

COLGATE FORMULA 25

For low-temperature washing ordinarily requiring olive oil soaps. Sold in eastern states only.

COLGATE WHITE SOAP FLAKES

High-grade thin white flakes. Not milled or polished. 90% anhydrous soap.

ARCTIC CRYSTAL FLAKES

Made from pure tallow, guaranteed to contain 88% or more soap. Titer approx. 42°C.

ARCTIC SYNTEX A, T, AND M

Synthetic detergents and wetting agents. Unsurpassed for many processing operations.

COLGATE FORMULA 10

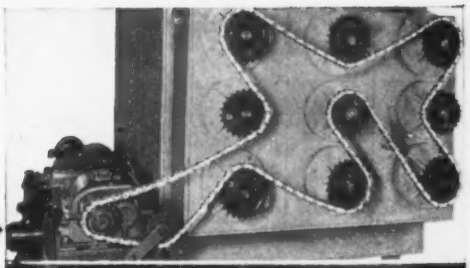
92% oleic acid soda soap in flake form for silk degumming, wool scouring, all textile processing.

Colgate-Palmolive-Peet Company

Jersey City 2, N. J. • Atlanta 3, Ga. • Chicago 11, Ill. Kansas City 3, Kans. • Berkeley 2, Calif.

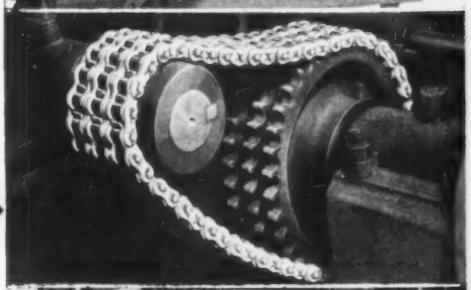
FLEXIBLE!

Link-Belt Silverlink Precision Steel Roller Chain is flexible; a series of linked rollers that form a flowing highway of power.



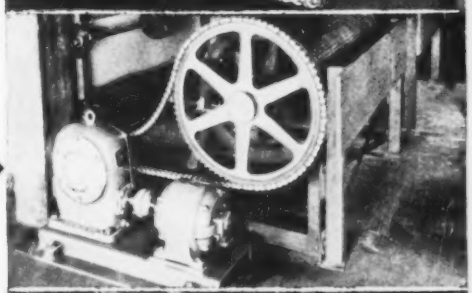
POWERFUL!

Link-Belt Silverlink Precision Steel Roller Chain can be applied to small fractional horsepower machines or to units involving more than a thousand horsepower.



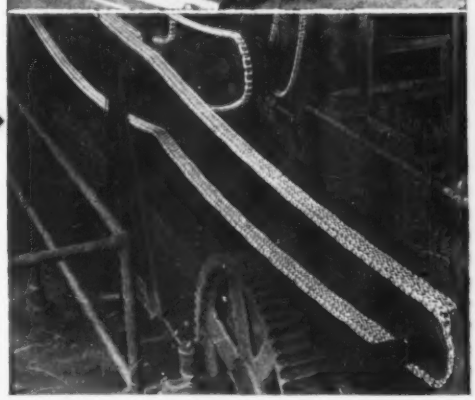
SHORT CENTERS!

Link-Belt Silverlink Precision Steel Roller Chain can be used on short centers at high ratios. Adapted to withstand heavy starting loads and severe shock.



LONG CENTERS!

Link-Belt Silverlink Precision Steel Roller Chain is adapted to coordinate motion of widely separated shafts, affording positive operations.



RELIABLE!

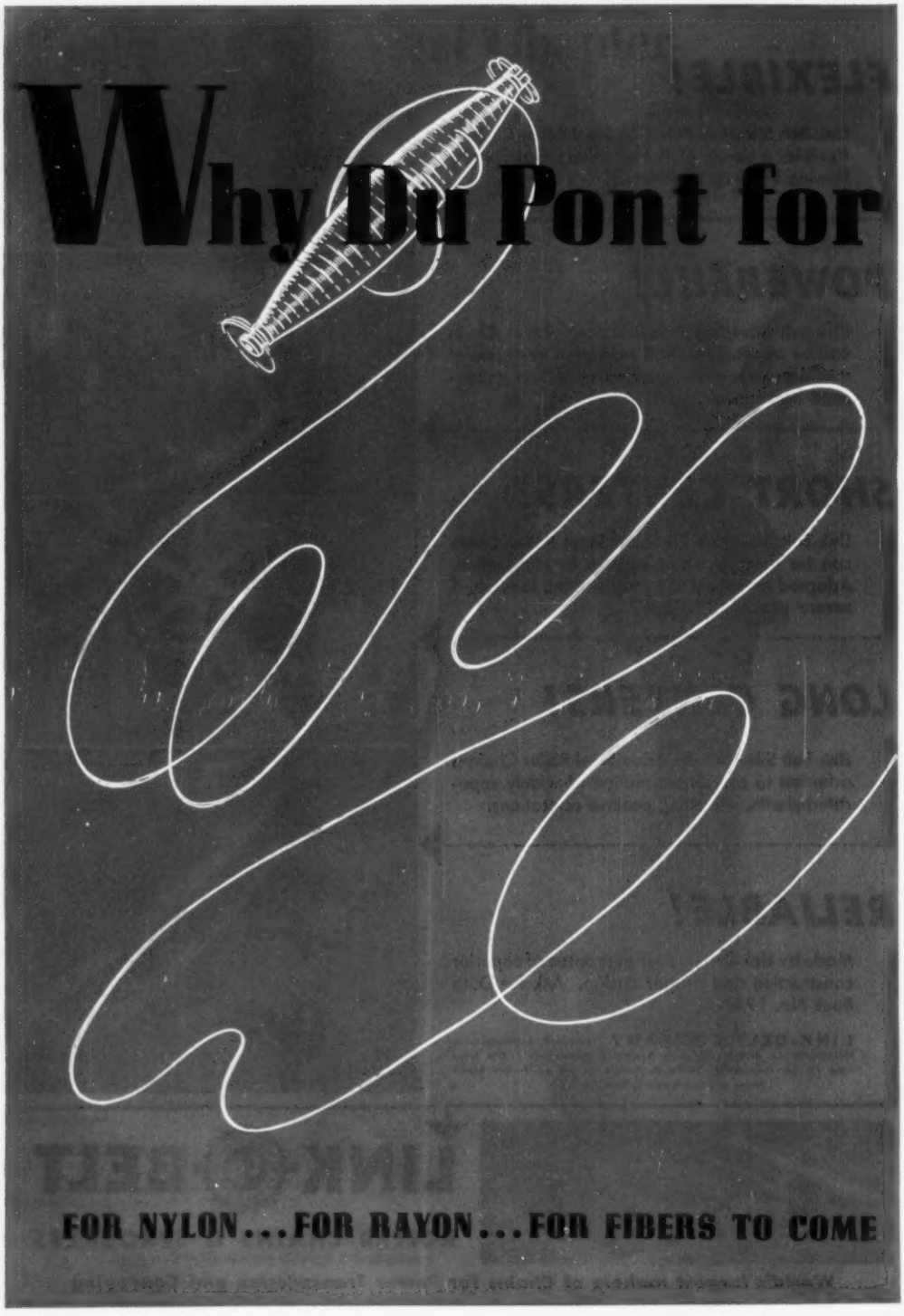
Made by Link-Belt—your guarantee of superior construction and proper design. Ask for Data Book No. 1957-A.

LINK-BELT COMPANY Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Dallas 1, Houston 3, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8. Offices, Factory Branch Stores and Distributors in Principal Cities. 11,473

LINK-BELT

ROLLER CHAINS & SPROCKETS

World's largest makers of Chains for Power Transmission and Conveying


Why Du Pont for
FOR NYLON...FOR RAYON...FOR FIBERS TO COME

Textile Fibers?

HOW WILL YOU HAVE YOUR *fibers?*...

Fibers by Du Pont are fibers as you want them. Whatever your fiber need is, Du Pont has probably anticipated it—and developed a fiber tailor-made for you.

Not new—but always news—Du Pont Viscose Rayon is a fiber you can have as you want it—40 denier to 4400 denier! Want 16 filaments to 2934 filaments? Want it ready to dye in any color, ready to blend with any fiber, with or without luster, staple or continuous filament? Check what you need—you'll probably find it—in dependable, versatile, universally useful Du Pont Viscose Rayon.

ACETATE DIVISION • NYLON DIVISION • RAYON DIVISION

Rayon Department

E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Delaware

DU PONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

. . . LOOK TO DU PONT

Speaking as your Superintendent, I say

Gentlemen, right now it's doubly wise ...to SACO-LOWELL ize!

We're in a competitive market, and buyers are becoming more and more quality-conscious. This is challenging, in view of the well-known fact that the current crop of cotton is inclined to be neppy and full of pepper trash.

You know that to maintain our brand name standards our equipment must be as good or better than our competitors' . . . Let's briefly analyze the SACO-LOWELLizing program, and see if it can help us.

1. Take our OPENING and CLEANING — is our equipment *adequate* for the kind of cotton we are forced to buy today?
2. Are our *cards* equipped with CONTINUOUS STRIPPERS?
3. Do we have the latest type of CONTROLLED DRAFT DRAWING?
4. Are our ROVING FRAMES equipped with a modern controlled draft system?
5. Can they produce packages which give greatest economy in the Card and Spinning room?
6. Are our FLYERS and SPINDLES in good condition?
7. Is our SPINNING wide gauge with large packages; is it equipped with the modern drafting elements, power-saving spindles, and long-life roll covering?
8. Is our maintenance program effective; are our frames lined and levelled and in good operating condition; do we use genuine SACO-LOWELL repair parts for replacements?

If your answers to any of these 8 important questions show that you can improve your competitive position, you are invited to consult an engineer from SACO-LOWELL! Write our nearest Sales Office.

SACO-LOWELL

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD, MAINE *and* SANFORD, N. C.

SALES OFFICES: CHARLOTTE • GREENVILLE • ATLANTA

New super-tough
V-BELT
tames toughest
textile mill drives
GOODYEAR INDUSTRIAL RUBBER PRODUCTS
G.T.M.-Specified
TEXTILE SPECIAL V-BELTS
A Multiple-ply bias-cut fabric envelope minimizes surface wear.
B Four-ply cord fabric strength-member for elasticity and greater strength.
C Gum cushion in compression section.

YOU know how tough textile mill drives are on V-Belts. Heavy overloads and high starting torques are common. Misalignment of sheaves and resulting uneven load-distribution accelerate belt wear — cause early failure in most conventionally designed belts.

That's why Goodyear now offers the Textile Special V-Belt designed by the G.T.M. — Goodyear Technical Man — to tame these tough drives. This new V-belt is built around a strength member consisting of several plies of multiple-cord fabric — giving the belt great strength and at the same time assuring the elasticity which permits the belt to tolerate misalignment that would quickly ruin regular belts. The bias-cut envelope or fabric cover of the Goodyear Textile Special V-Belt is designed to provide maximum resistance to surface wear even under difficult conditions.

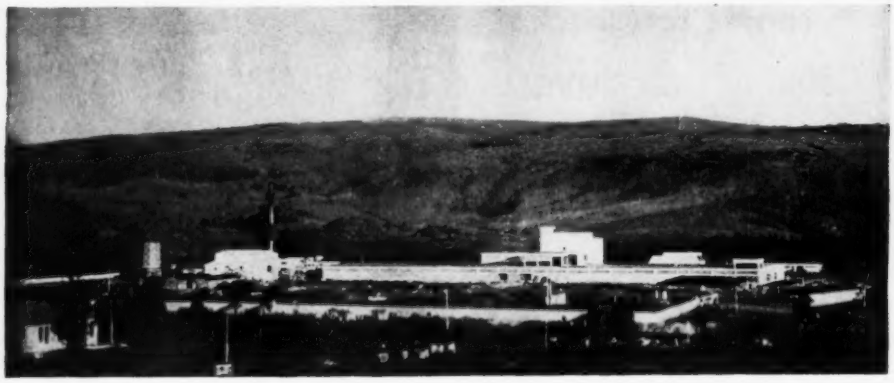
Ask the G.T.M. about Goodyear Textile Special V-Belts, available in all popular textile mill sizes. Or write Goodyear, Akron 16, Ohio.

For Hose, Flat Belts, V-Belts, Molded Goods, Packing, Tank Lining *built to the world's highest standard of quality, phone your nearest Goodyear Industrial Rubber Products Distributor.*

GOODYEAR

THE GREATEST NAME IN RUBBER

KOHORN



More Rayon for Chile

Rayon made by this modern new plant, the largest in Chile, costs less than imported yarn. This saving and benefit to the country's balance of trade is the result desired by Textile Manufacturers and Investors who promoted and supported construction of the plant.

It was built in seventeen months by Oscar Kohorn & Co., Ltd.—the world's leading builders of rayon plants and rayon machinery. Kohorn experts are technical managers of the plant, until the local staff gains sufficient experience to take over. Since 1948, the plant's output has aided the Chilean textile industry and the national economy.

Domestic markets of other countries can profitably be supplied by local rayon plants. With Kohorn engineering, rayon machinery and technical management a new rayon plant is certain to be built quickly and to produce efficiently, employing local labor and engineers.

Kohorn brings to your project over thirty-five years' skill and experience in Designing, Equipping and Operating complete rayon plants. Write for further information without obligation.

Complete Plants for the manufacture of Filament Rayon, Rayon Staple Fiber and Cellophane equipped in 12 months

OSCAR KOHORN & CO., LTD.

EXECUTIVE OFFICES

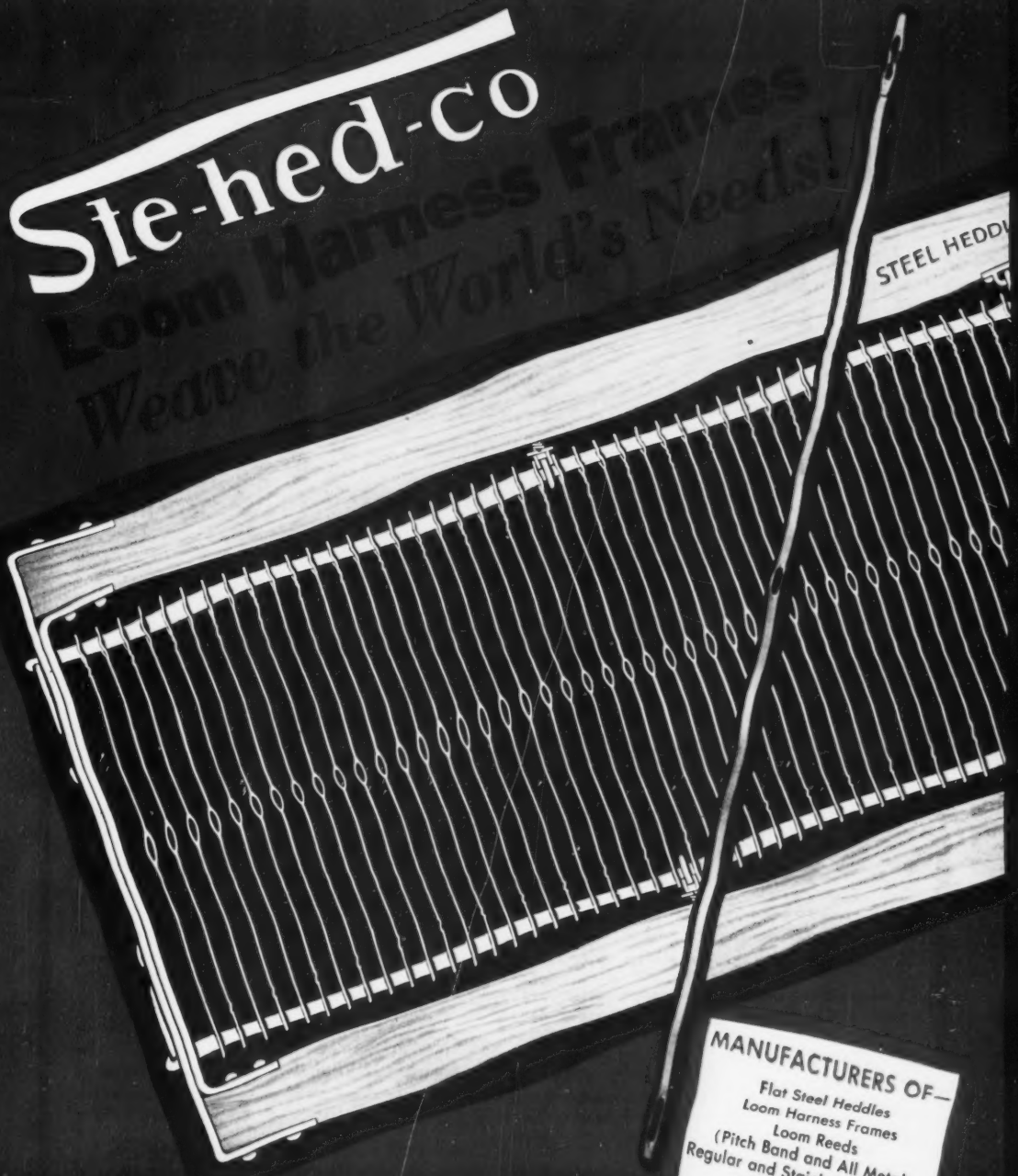
501 FIFTH AVE. NEW YORK 17, N. Y., U. S. A.

Pioneers of the Rayon Industry

Ste-hed-co

Loom Harness Frames

We are the World's Needs!



MANUFACTURERS OF—

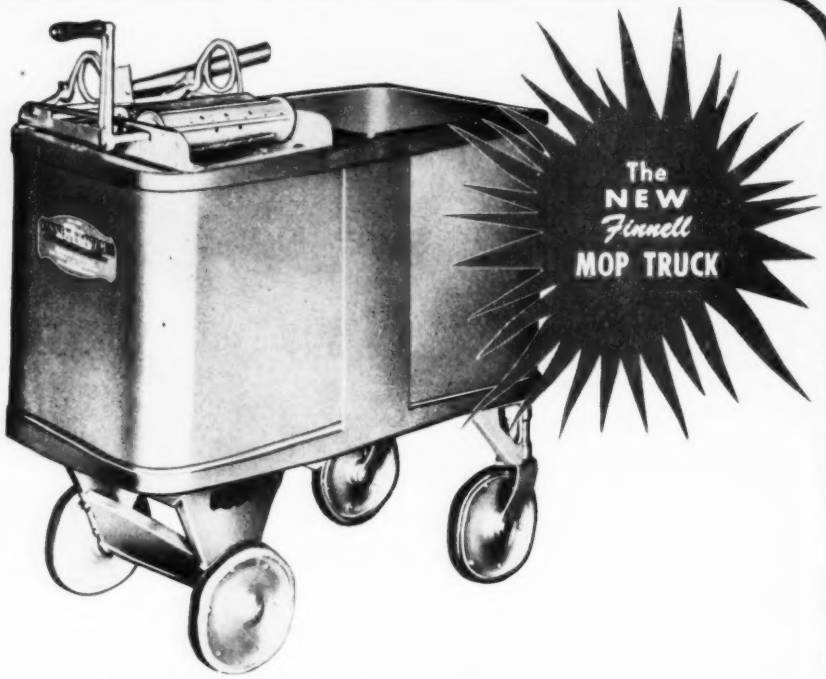
Flat Steel Heddles
Loom Harness Frames
Loom Reeds
(Pitch Band and All Metal, Regular and Stainless Steel Wire)
Warp Preparation Equipment
Loom Harness Accessories
Electroderods
(Fibre and Plastic Insulation)
Southern Shuttles
(Tempered Dogwood, Persimmon and Fibre Covered)

STEEL HEDDLE MFG. CO.

2100 W. Allegheny Ave., Philadelphia 32, Pa.

SOUTHERN SHUTTLES DIVISION 621 E. McBee Ave. Greenville S.C. and Paris S.C.

Atlanta, Ga. • Greensboro, N.C. • Providence, R.I. • Montreal, Can.



It's Streamlined

FOR GREATER CLEARANCE... Conserves Storage Space

The new *Finnell* Mop Truck gives you all the fine features of the former *Finnell* truck plus several new ones. The new model has rounded corners and recessed wheels—especially desirable features when the truck has to be moved through narrow passages, and for conserving storage space.

A mop shield beneath the wringer of the truck prevents mop from dropping into the dirty water when being wrung. Wringer-rolls are of steel, and the truck has four double-disc pressed-steel wheels, two of which swivel . . . rubber or metal tires . . . and two 28-gallon tanks. Ruggedly constructed to withstand hard usage. Comes in stainless steel and in galvanized iron.

Finnell also makes a Mop Truck for smaller operations, with two 7½-gallon tanks. The *complete Finnell line* includes *Combination Scrubber-Vacuum Machines . . . Portable Machines* for wet-scrubbing, dry-scrubbing, dry-cleaning, waxing, and polishing . . . *Heavy Duty Vacuum Cleaners* for wet and dry pickup . . . *Steel-Wool Pads* and other accessories . . . *Cleansers, Sealers,* and *Waxes* for every floor-maintenance need.

The nearby Finnell man is readily available to help train your maintenance operators in the proper use of *Finnell Equipment and Supplies.* For consultation or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1907 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

Everything FINNELL for Floor Care

FINNELL SYSTEM, INC.

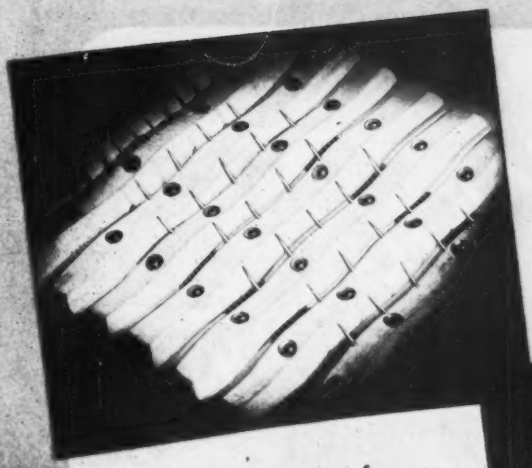
Pioneers and Specialists in

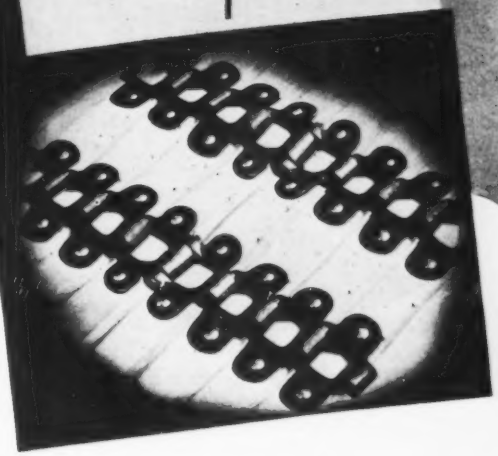
FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES

SLAT APRONS

by SARGENT





Top and back views of a typical SARGENT Spiked Apron.

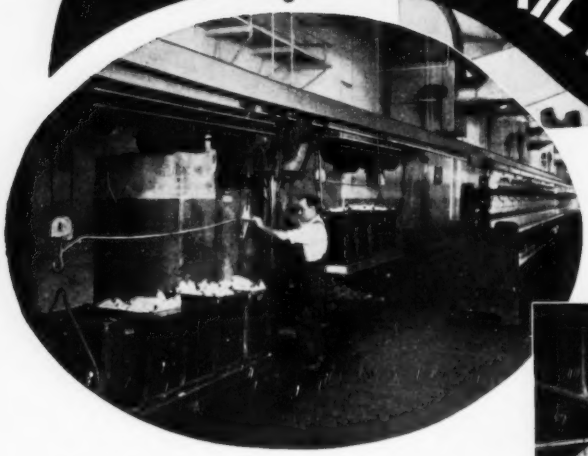
MADE TO YOUR SPECIFICATIONS

SARGENT has unlimited facilities for making slat aprons of all types and sizes, and to your exact requirements... feed aprons and conveyor aprons for various machines... doffer aprons for Wool Washing and Drying Machines... bottom and spike aprons for Automatic Feeders of all types. All are made from selected beech or maple that has been thoroughly air dried. Slats are fastened to chains, to leather or to rubber belts. Illustrated above are typical Sargent Spiked Aprons built up on especially strong malleable iron chains, supplied with convenient *coupling links*. These aprons also can be supplied with corrosion-resisting bronze chains, and either monel or stainless steel pins in the slats. Before ordering slat aprons please write us for Complete Information Bulletin (No. 182).

C. G. SARGENT'S SONS CORPORATION
Graniteville, Massachusetts, U.S.A.

SAVE TIME!
SAVE LABOR!
SAVE FLOORS!

with MONORAIL HANDLING



Any American MonoRail installation will lower costs, reduce fatigue, and cut down maintenance for handling. American MonoRail Systems serve many operations in textile mills. They eliminate congestion and spoilage and keep production on schedule without delay.

Consultation with American MonoRail Engineers will reveal why American MonoRail equipment serves many large textile and industrial plants. We invite your inquiry.

SEND FOR BULLETIN C-1. A 56 page book showing successful applications of American MonoRail Systems.

THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE — CLEVELAND 7, OHIO

SANDOZ PRESENTS

the color achievement of the month

Study in Brown

. . . BY JUILLIARD

The fabric in this spring coat—a fine worsted gabardine called "Planeteen" by A. D. Juilliard & Co., Inc.—presents a challenge to the dyer . . . in the sense that the extremely long wear of the fabric must be matched by equal service from the dye.

For such fabrics, many textile leaders prefer the Sandoz ALIZARINE series of dyestuffs, of which the recommended number for the color shown in the Juilliard coat is

ALIZARINE LIGHT BROWN BL PAT

These ALIZARINE colors have proved to be unsurpassed in fastness to light, regardless of whether dyed neutral, acid or by the simple Metachrome method which was brought back into prominence by the Sandoz Metomega Chrome Colors.

For any chrome, acid or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13 N. Y.

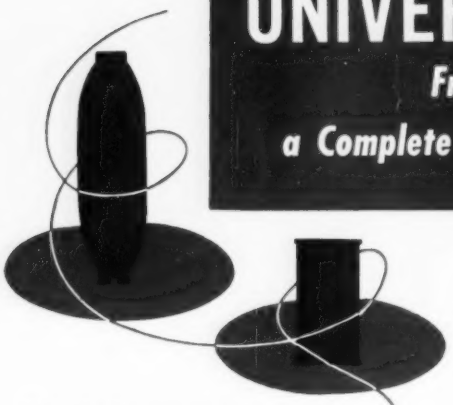
Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto • Other branches at Providence, Paterson and Montreal

SANDOZ *thinks ahead with textiles*

SANDOZ

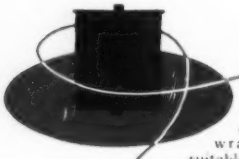
UNIVERSAL-ATWOOD

From pirn to cone—
a Complete System for Throwing Nylon

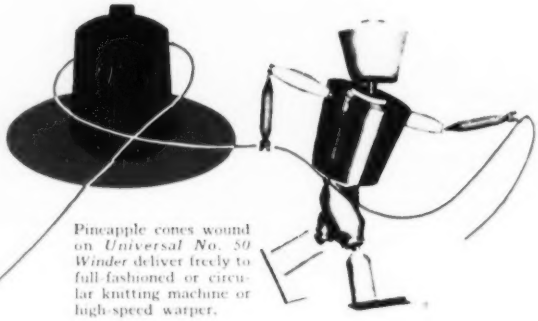


Pirns of nylon yarn are rewound at high speed on *Atwood Model 200 Redraw* onto spools of proper density and wind, which insure highest efficiency when used as supply for up-twisting.

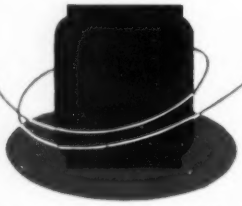
From the time nylon yarn enters a throwing plant until it leaves . . . it can be processed on machinery *all* built to a single standard of manufacturing quality. Only Universal, with its Atwood Division, builds a complete line of throwing equipment.



Bobbins of uniform twist and accurate number of wraps, providing a suitable delivery for the sizing machine, are produced by *Atwood Up-Twisters.*



Pineapple cones wound on *Universal No. 50 Winder* deliver freely to full-fashioned or circular knitting machine or high-speed warper.



Tubes sized single end on *Universal No. 250B* Sizing Machine are built with a special traversing arrangement which, by alternately lengthening and shortening the yarn layers, forms tapered selvedges for free delivery to the next operation.

UNIVERSAL-ATWOOD NYLON TWISTING, SIZING AND CONING

used by more throwsters than any other method.

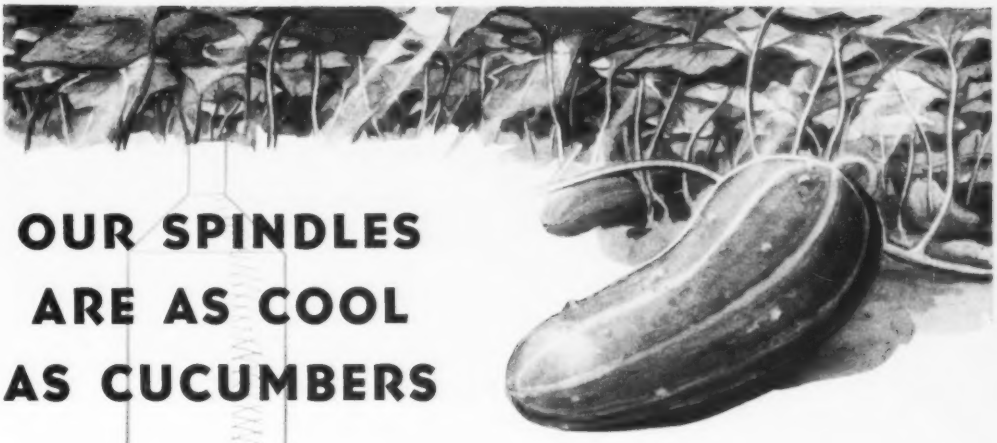
LEESONA

UNIVERSAL WINDING COMPANY

P. O. BOX 1605 ● PROVIDENCE 1, R. I.

Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland. *Agents in every principal textile center throughout the world.*

Reg. U. S. Pat. Off.



OUR SPINDLES ARE AS COOL AS CUCUMBERS

The temperature and humidity in our spinning and winding rooms is kept at controlled levels by the latest designed air conditioning system. What's more, the air is cleaned of smoke and other foreign substances by a bank of Electromatic air filters. So it's no wonder CROSS knitting yarn is clean clear through to the last turn on the cone.

Modern, scientific controls combined with CROSS know-how make it possible for our customers to consistently show production profits. That's why more and more knitters are switching to CROSS double-carded or combed knitting yarn. They are getting on the quality level where CROSS knitting yarn has been for thirty-three years.

Used by Knitters of Polo Shirts, Infants' and Children's Wear and Women's Underwear

SINGLE and PLY - BLEACHED or DYED - ON CONES

CROSS

COTTON MILLS COMPANY

MARION, N. C.

DOUBLE CARDED AND COMBED KNITTING YARNS

Representatives

Industrial Yarn Co.
351 Broadway
New York 13, N. Y.

I. I. Davis
250 S. 13th St.
Philadelphia, Pa.

Carl L. Miller & Sons
Utica, N. Y.

Joseph Klumpp Co.
407 Slater Trust Bldg.
210 Main St.
Pawtucket, R. I.

Causey Bros.
Southeastern Bldg.
Greensboro, N. C.

David F. Swain & Co.
222 W. Adams St.
Chicago 6, Ill.

NO MORE *TIPPY* WOOL

with

ANTHOMINE*

on the job!

IN ALL WOOL DYEING OPERATIONS *ANTHOMINE* INCREASES THE AFFINITY OF WOOL FIBRES FOR DYESTUFFS.

THIS RESULTS IN LEVEL SHADES WHEN DYEING STOCK, YARN OR PIECE GOODS.

TIPPY AND BLENDED WOOLS ARE DYED A SOLID SHADE BY ADDING *ANTHOMINE* TO THE DYE BATH.

Mills throughout the country use **ANTHOMINE** *for:*

- Even dyeing
- Brighter, fuller shades
- Quicker, better exhaustion of dyebath
- Softer, more pleasing "hand"
- Reduced processing time

Send for Technical Service Bulletin #203-100.2 for complete information, including how to use ANTHOMINE for Top and Yarn Dyeing, Pressure or Package Dyeing, Leveling Unevenly Dyed Yarn or Shady Pieces, Dyeing Metallized Colors, etc.

Arkansas Co. INC.

Manufacturers of Industrial Chemicals for Over 40 Years

NEWARK, NEW JERSEY

*Reg. U.S. Pat. Off.

For less bolster wear, smoother running spindles,

Gulf Lubrication Engineers recommend

Superrefined by Gulf's exclusive Alchlor Process, Gulfgem Oil has unmatched resistance to oxidation and sludge deposits. Thus Gulfgem lasts longer in spindle service — users report that it outlasts spindle oils by as much as four to five times.

With good operating practice Gulfgem Oil reduces frequency of cleaning bolsters. Cleaner spindles and bolsters insure substantial savings in power costs!

Gulfgem Oil has outstanding lubricating qualities—insures less wear, fewer spindle and bolster renewals, and greater freedom from spindle wobble.

Call in a Gulf Lubrication Engineer today and ask him to explain the many advantages of Gulfgem Oil. This superior spindle oil is available in four grades with the proper range of viscosities for every type of high speed spindle. Write, wire, or phone your nearest Gulf office.

Gulf Oil Corporation · Gulf Refining Company

Division Sales Offices:

Boston · New York · Philadelphia · Pittsburgh · Atlanta
New Orleans · Houston · Louisville · Toledo

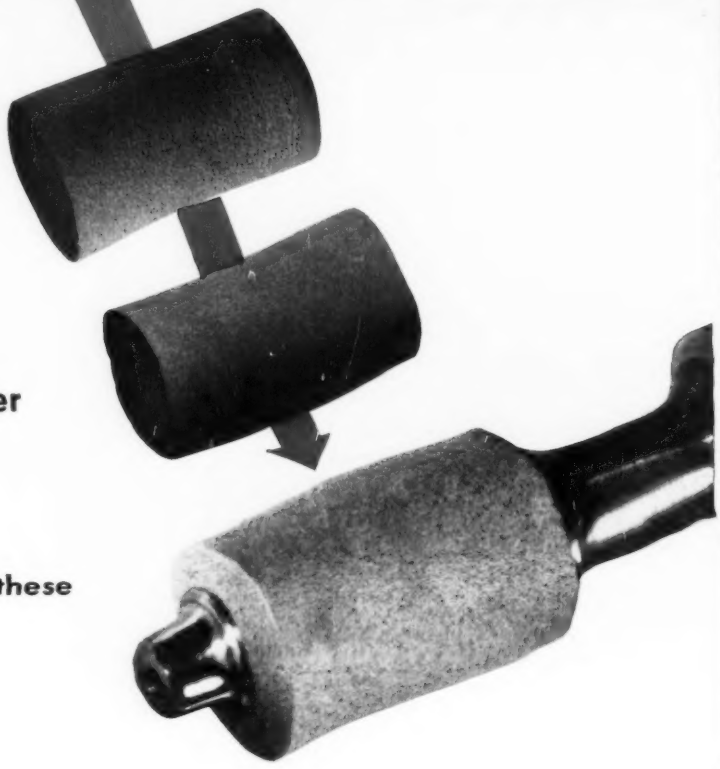
GULF INDUSTRIAL LUBRICATION

Cork and Rubber

High friction cork

added to Accotex rubber

gives NC-727 Accotex these extra advantages:



LONG SERVICE—after long initial service, NC-727 Accotex cots can be rebuffed as many as five or six times.

REDUCED EYEBROWING—cork content in Accotex NC-727 retards slicking, thus minimizes eyebrowing.

GOOD START-UP—Accotex cots are non-thermoplastic and resist flattening during shutdown periods.

REDUCED LAPPING—Accotex cots contain electrolytes. Consequently they have no affinity for textile fibers and do not tend to lap up. Nonsweating even in humid weather.

SOLVENT RESISTANCE—Accotex cots are not affected by oil, water, dyes, or any commonly used textile solvent.

SEAMLESS CONSTRUCTION—Accotex cots have no seams, no structural weakness to cause failure in service.

QUICK ASSEMBLY—All Accotex cots are pre-glued for easier, quicker assembly. Thus they reduce roll shop costs.

ACCOTEX COTS
CORK COTS

ACCOTEX cots

KEEP GOOD DRAFTING SURFACE LONGER

Armstrong's NC-727 Accotex Cot
combines cork's grip with rubber's long life.

By adding high-friction cork particles to tough Accotex synthetic rubber, Armstrong produces a long-wearing roll cover that resists slicking . . . the NC-727 Accotex® cot. It has the drafting qualities of cork, plus the long life of synthetic rubber. That's why this general purpose Accotex cot is now serving more spindles *than any other roll covering.*

In addition, NC-727 Accotex greatly reduces lapping. Like all other Accotex formulations, it contains electrolytes, which eliminate the attraction between the fiber and cot that causes lapping up.

Consider these and the other advantages of NC-727 Accotex listed at left. Then call your Armstrong representative and arrange a test installation of NC-727 Accotex cots on a frame in your own mill.

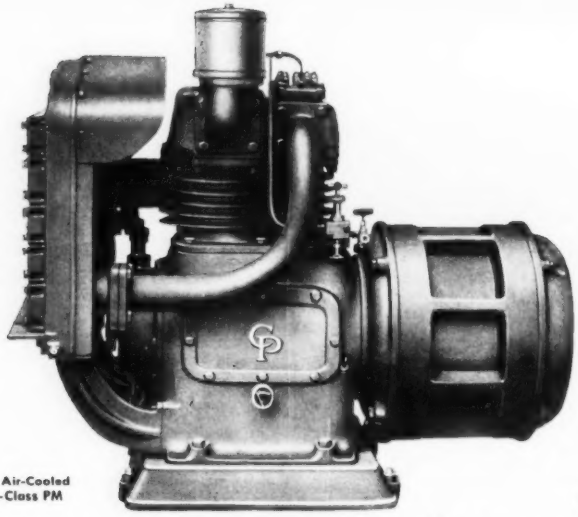
See for yourself how they help produce quality yarn—with less roll maintenance.

Call *your Armstrong man today.* Or write Armstrong Cork Company, Textile Products Department, 8307 Arch Street, Lancaster, Pennsylvania. These cots are available for export.

For maximum lap resistance—Armstrong's Accotex J-490, a plain synthetic covering, is especially useful where synthetic fibers are run on cotton system equipment or wherever maximum lap resistance is required. After long initial service life, J-490 cots, like all Accotex cots, can be rebuffed five or six times. You get these extra lives for a few cents per roll. For minimum eyebrowing use J-490 with revolving clearers.

Whether you are spinning cotton, wool, or synthetic fibers, Armstrong can supply you with a cover especially formulated to fill your requirements. These covers are available for export.

ARMSTRONG'S ACCOTEX COTS



CP Two-Stage Air-Cooled Compressor—Class PM

compressed air *anywhere* – without waste

CP Two-Stage Air-Cooled Compressor—Class PB

In many large and medium sized plants air is needed in isolated locations. These small, compact CP compressors may be installed independently of the main air system, dispensing with long air lines. They are also ideal for off hour operations.

In smaller plants, the entire air requirements may be met most economically with these small, efficient compressors.

Built to the same high standards as the large CP compressors, Class PM two-stage air-cooled compressors are available in sizes from 139 to 145 c.f.m. piston displacement, with built in motor (as illustrated) and with flexible coupling or V-belt drive.

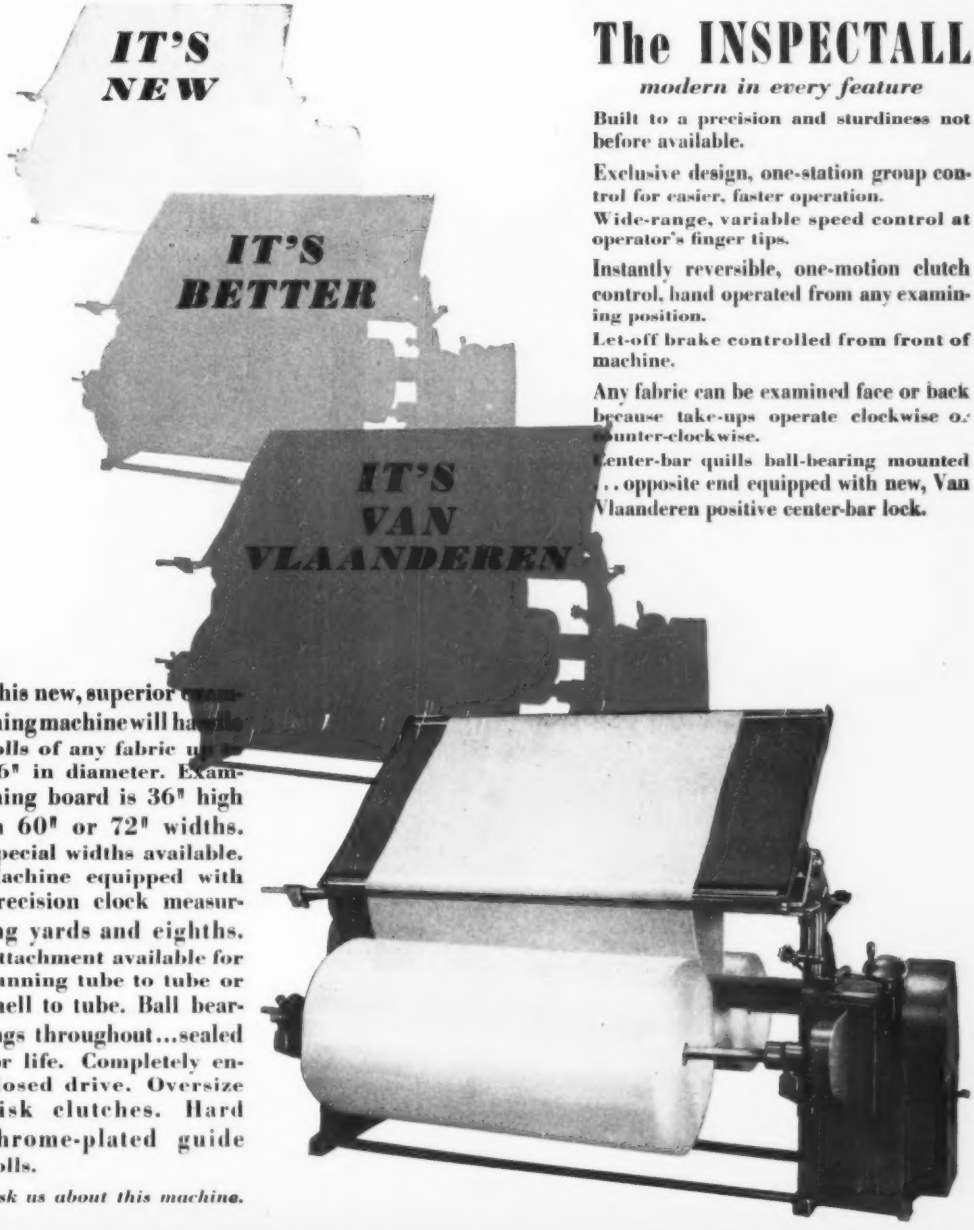
Class PB-20 Compressors are available in three sizes: 7½, 10 and 15 HP, with piston displacement ranging from 39 to 82 c.f.m. Illustrated is the tank-mounted type.

Write for complete information.

CHICAGO PNEUMATIC TOOL COMPANY

General Offices: 8 East 44th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES



The INSPECTALL

modern in every feature

Built to a precision and sturdiness not before available.

Exclusive design, one-station group control for easier, faster operation.

Wide-range, variable speed control at operator's finger tips.

Instantly reversible, one-motion clutch control, hand operated from any examining position.

Let-off brake controlled from front of machine.

Any fabric can be examined face or back because take-ups operate clockwise or counter-clockwise.

Center-bar quills ball-bearing mounted . . . opposite end equipped with new, Van Vlaanderen positive center-bar lock.

This new, superior examining machine will handle rolls of any fabric up to 36" in diameter. Examining board is 36" high in 60" or 72" widths. Special widths available. Machine equipped with precision clock measuring yards and eighths. Attachment available for running tube to tube or shell to tube. Ball bearings throughout...sealed for life. Completely enclosed drive. Oversize disk clutches. Hard chrome-plated guide rolls.

Ask us about this machine.

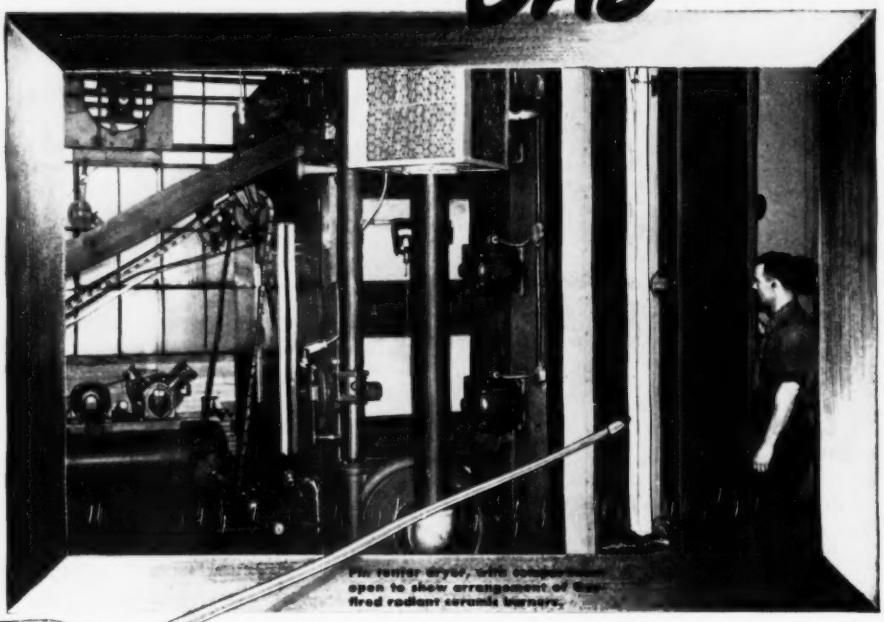
VAN VLAANDEREN MACHINE COMPANY

370 Straight Street • Paterson 3, New Jersey

World's largest manufacturer of machines for processing modern fabrics

GUILD · NORTHLAND MILLS

Increases Capacity and Utility of Pin Tenter Dryer with Radiant GAS Burners



Pin tenter dryer, with compartment open to show arrangement of Gas-fired radiant ceramic burners.

MODERNIZATION of existing equipment is a logical step to meet the demand for increased production. And, in modernizing heat processing equipment, the advantages of GAS and modern Gas Equipment have been proved in thousands of installations.

When confronted with the need for increased drying speeds in a pin tenter dryer the engineers at Guild-Northland Mills, Laconia, New Hampshire, installed radiant Gas-fired ceramic burners in the drying chamber. This simple installation provides automatic control of temperatures up to 450° with complete safety.

In this installation the flexibility of GAS is emphasized by the comments of Guild-Northland Superintendent G. E. BonDurant—"**The Gas-fired equipment not only increased the drying capacity of our pin tenter but also gives us the temperatures and drying speeds necessary for curing special resin finishes.**"

Wherever heat is required in textile processing —for slashing, drying, polymerizing, and other operations—there's a task for GAS and modern Gas Equipment. You'll find it worthwhile to investigate the advantages of GAS for textile productioneering.

Photos Courtesy of RED-RAY Manufacturing Company, Inc., New York City, Manufacturers of Gas-fired Radiant Ceramic Burners.

MORE AND MORE...

THE TREND IS TO GAS

FOR ALL INDUSTRIAL HEATING

AMERICAN GAS ASSOCIATION

420 LEXINGTON AVENUE, NEW YORK 17, N. Y.

Exact match, lowest-cost formula, helpful Technical Service... prompt delivery, you get them all when you

SPECIFY National Aniline Dyes

NATIONAL ANILINE DIVISION • ALLIED CHEMICAL & DYE CORPORATION

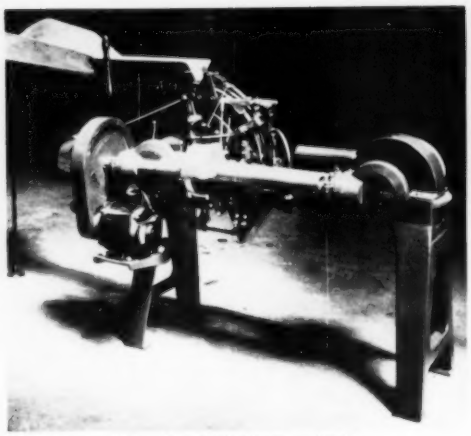
40 RECTOR STREET, NEW YORK 6, N.Y.

BOSTON • PROVIDENCE • PHILADELPHIA • CHICAGO • SAN FRANCISCO • PORTLAND, ORE.
GREENSBORO • CHARLOTTE • ATLANTA • NEW ORLEANS • CHATTANOOGA • TORONTO

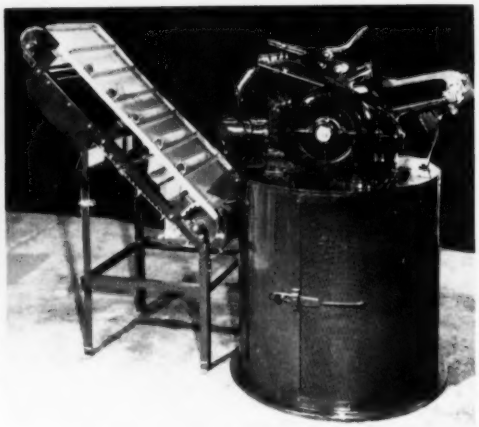
THE TERRELL MACHINE COMPANY ANNOUNCES

A NEW SERVICE

ON ITS BOBBIN CLEANING MACHINES



(Type K) Quill Cleaning Machine



(TERMACO) Roving Bobbin Cleaning Machine

After several years of use, your bobbin cleaning machine may need substantial repairs, or, in some cases, late and improved assemblies added to it. We have set up a new service to do this in the most convenient and economical manner for our users.

We have acquired machines of various models and brought them up to date. If your machine needs working over we ship you one of these machines, set up to handle your bobbins, and ready to be put into operation in your plant immediately. We do not sell or bill you for this machine. You return your machine to us and when it has been repaired we then bill you for the work and parts required for your machine.

You do not get your old machine back, but the one we send you is guaranteed to be the equivalent in every detail of your machine, after it has been reconditioned.

This service has been tried for several months and mill men are highly pleased with its economy and convenience.

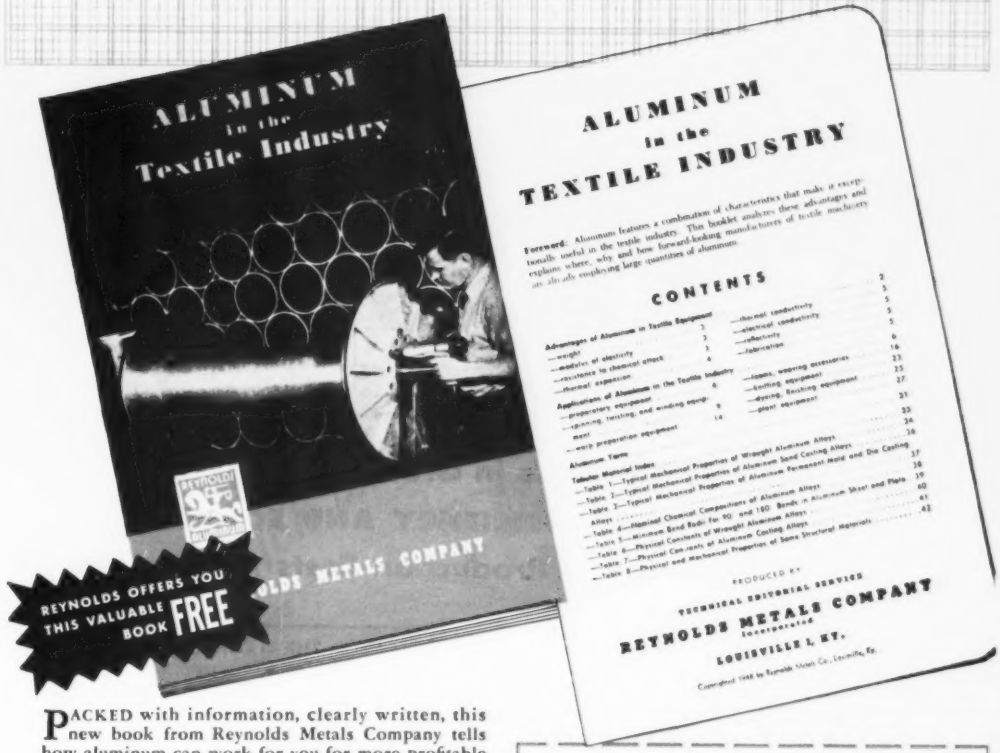
If you would like additional information on this new and very practical plan, we will be pleased to supply it.

The TERRELL COMPANY Inc.

CHARLOTTE, NORTH CAROLINA

Read "ALUMINUM IN THE TEXTILE INDUSTRY"

Learn HOW NEW USES OF ALUMINUM CAN SOLVE YOUR PROBLEMS AND PRODUCE GREATER PROFITS.


ALUMINUM
in the
Textile Industry
REYNOLDS METALS COMPANY
REYNOLDS OFFERS YOU THIS VALUABLE BOOK FREE
ALUMINUM
in the
TEXTILE INDUSTRY
Foreword. Aluminum features a combination of characteristics that make it exceptionally useful in the textile industry. This booklet analyzes these advantages and explains where, why and how forward-looking manufacturers of textile machinery are already employing large quantities of aluminum.
CONTENTS
Advantages of Aluminum in Textile Equipment
—weight
—resistance of electricity
—resistance to chemical attack
—thermal expansion
—thermal conductivity
—electrical conductivity
—reflectivity
—fabrication
Applications of Aluminum in the Textile Industry
—preparatory equipment
—spinning, twisting, and winding equipment
—warp preparation equipment
—looms, weaving accessories
—knitting equipment
—dyeing, finishing equipment
—plant equipment
Aluminum Yarns
Tabular Material Index
—Table 1—Typical Mechanical Properties of Wrought Aluminum Alloys
—Table 2—Typical Mechanical Properties of Aluminum Sand Casting Alloys
—Table 3—Typical Mechanical Properties of Aluminum Permanent Mold and Die Casting Alloys
—Table 4—Nominal Chemical Compositions of Aluminum Alloys
—Table 5—Minimum Bend Radii For 90° and 180° Bends in Aluminum Sheet and Plate
—Table 6—Physical Constants of Wrought Aluminum Alloys
—Table 7—Physical Constants of Aluminum Casting Alloys
—Table 8—Physical and Mechanical Properties of Some Structural Materials
PRODUCED BY
TECHNICAL EDITORIAL SERVICE
REYNOLDS METALS COMPANY
Incorporated
LOUISVILLE 1, KY.

PACKED with information, clearly written, this new book from Reynolds Metals Company tells how aluminum can work for you for more profitable production. There are numerous examples and illustrations of aluminum uses already at work . . . bringing new savings to the textile industry. Based on recently compiled technical data, you'll find "ALUMINUM IN THE TEXTILE INDUSTRY" interesting and informative.

You can have this book free by sending your request at once. We want its vital facts to reach everyone quickly. To insure receiving your copy, send your request now.

REYNOLDS METALS COMPANY
2535 South Third St., Louisville 1, Ky.
Gentlemen:
Please send my free copy of your new book, "Aluminum in the Textile Industry".
Name_____
Company_____ Title_____
Address_____
City_____ Zone____ State_____

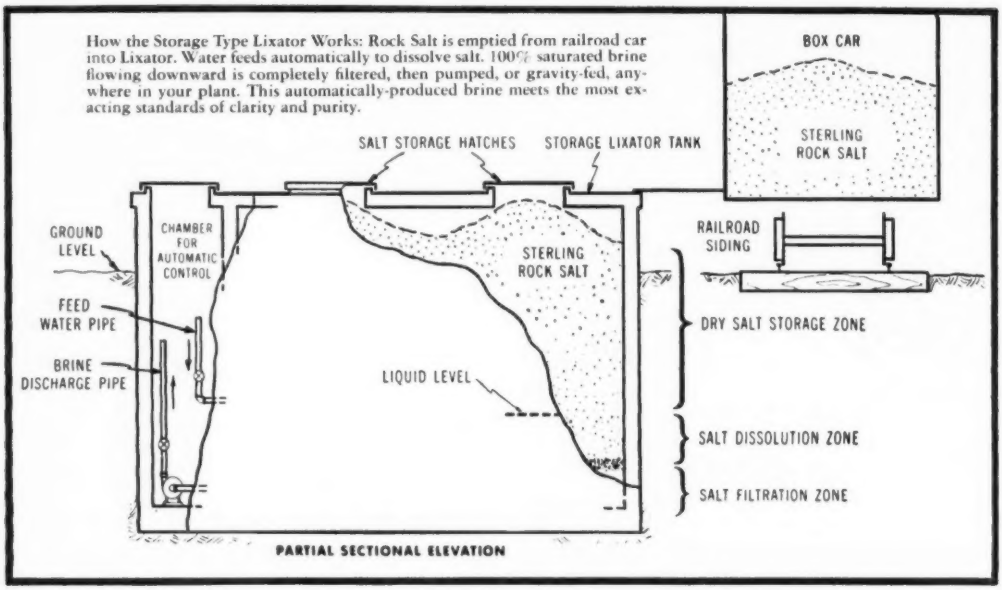
IF YOU SEE RUST YOU KNOW IT'S NOT ALUMINUM

REYNOLDS METAL

REYNOLDS *Lifetime* ALUMINUM

THE COMPLETE ALUMINUM SERVICE FROM BASE METAL TO FINISHED PARTS

THE STORAGE TYPE LIXATOR*


How the Storage Type Lixator Works: Rock Salt is emptied from railroad car into Lixator. Water feeds automatically to dissolve salt. 100% saturated brine flowing downward is completely filtered, then pumped, or gravity-fed, anywhere in your plant. This automatically-produced brine meets the most exacting standards of clarity and purity.
BOX CAR
STERLING ROCK SALT
SALT STORAGE HATCHES
STORAGE LIXATOR TANK
GROUND LEVEL
CHAMBER FOR AUTOMATIC CONTROL
FEED WATER PIPE
BRINE DISCHARGE PIPE
STERLING ROCK SALT
LIQUID LEVEL
RAILROAD SIDING
DRY SALT STORAGE ZONE
SALT DISSOLUTION ZONE
SALT FILTRATION ZONE
PARTIAL SECTIONAL ELEVATION

Provides Brine in Great Volume with MAXIMUM EFFICIENCY AND ECONOMY to Lower Production Costs

Users of International's Storage Type Lixator report these major money-saving benefits:

Lowered Labor Cost for Handling Salt

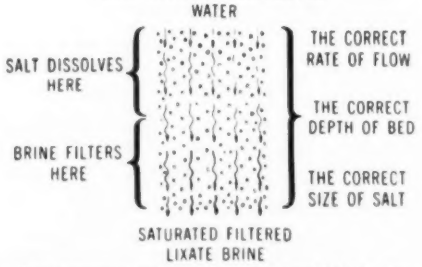
No Labor or Power Cost For Making Brine

Reduced Costs For Distributing Brine Throughout The Plant

Savings of 10% to 20% In Amount of Salt Required

Storage Type Lixators are constructed from detailed plans and specifications developed by our Technical Service Department engineers to meet individual plant requirements. These specialists in the design and installation of Storage Type Lixators are at your service . . . without cost or obligation. They will supervise every step in your Lixator installation . . . will suggest important economies in the production, handling and use of Lixate Brine. Consultation is cordially invited.

THE LIXATE PRINCIPLE



First discovered and used by International Salt Co., Inc.

The **LIXATE** *Process*

REG. U. S. PAT. OFF.

for making brine

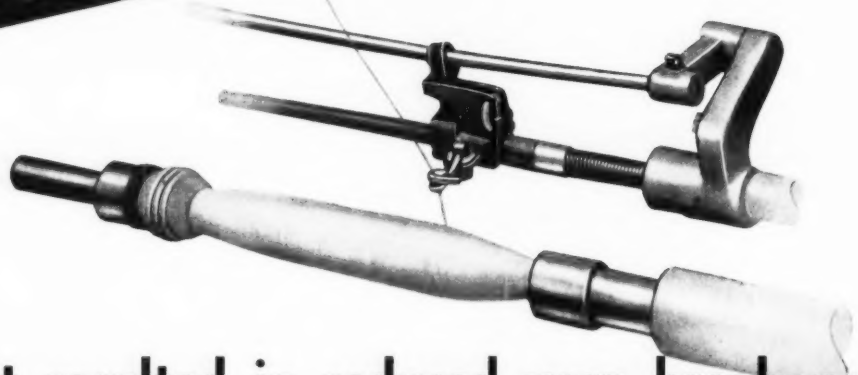
INTERNATIONAL SALT COMPANY, INC.

*Trade Mark **Scranton, Pa.**

SINGLE PROCESS LAPPING
Platt's system includes all modern refinements for the production of regular cotton and rayon cut staple laps, and shows advantages in relative cost/labour factors and healthy working conditions.
SHORT CUT PROCESSING IN THE CARD ROOM
Utilising large packages and two-zone high drafting at the speed frame to convert draw frame sliver into finished rovings; handling and operative costs are considerably reduced.
HIGH DRAFT SPINNING
The "Pneumafil" system of broken end collection, alternative methods of individual electric motor driving and four systems of high drafting—the four roller, single apron, Casablancas and Balmes—cater for all requirements.
MODERN SPINNING
AND DOUBLING
MACHINERY
..... for Cotton, Cotton Waste & Rayon Cut Staple..
Marketing the Textile Machinery made in the works of
PLATT BROTHERS & CO. LTD.
HOWARD & BULLOUGH LTD.
DOBSON & BARLOW LTD.
BROOKS & DOXEY LTD.
ASA LEES & CO. LTD.
PLATT BROS. (SALES) LIMITED
OLDHAM ENGLAND
TEL: MAIN (OLDHAM) 3884 · GRAMS: TEXTILMAK OLDHAM

C.S.

THE CASE OF THE MISSING BUILDER WHEEL



that resulted in reduced yarn breakage

MILL men consider the loss of the builder wheel as good-riddance. The HACOBA'S unassisted eye feeds and traverses so smoothly and with such unvarying tension that yarn breakage is rare. Particularly on rayons, will this one feature alone prove invaluable. Carrying the case to its conclusion, the four full bobbins are gently dropped in two stages, preventing fiber damage.

For further clues as to why the original HACOBA is the world's most popular winder, write for our eight page folder of technical data.

TRADE MARK

THE ORIGINAL HACOBA FILLING WINDER

winding 4 bobbins at one time

The HACOBA is FULLY AUTOMATIC, winding on every type of bobbin, pirn, tube or quill for any loom. When the bobbins are filled to a predetermined length, it stops, traps and cuts the thread, lowers bobbin into the tray, inserts new one and starts winding again — entirely without human aid. The HACOBA is an all round winder for cotton, worsted or rayon, even the bobbin size accommodation can be changed in 5 seconds.
Send for full details.

Atkinson, Haserick & Co.
BUSINESS ESTABLISHED 1823
Textile Machinery Agents and Engineers
211 Congress Street Boston 6, Mass.
BRADFORD, ENGLAND, 8 CURRER STREET

PRINCE-SMITH & STELLS, LTD.
SOCIETE ALSACIENNE DE CONSTRUCTIONS MECANIQUES
TAYLOR, WORDSWORTH & CO. LTD.
PLATT BROS. & CO. LTD.
HOLDSWORTH GILL SCREW CO. INC.
STANDARD FABRICATORS
ROBERT LEVAUX & CO.
THOMAS BROADBENT & SONS LTD.
WILLIAM AYRTON & CO. LTD.
PLUTTE, KOECKE & CO.
THE CENTRIF-AIR MACHINE CO., INC.

· HOLDSWORTH
GILL SCREW CO., INC.

Every HOLDSWORTH FALLER is ready to drop in and run without further adjustment

Follow the manufacture of fallers, in these photos and see why you can order *identical* fallers in any of the eight HOLDSWORTH types. Here specially hardened tool steel ends are being butt-welded to a cold-rolled steel middle. This process assures extra toughness and accurate length. The ends have been identically profiled on automatic machines.

Tiny holes, with micrometer precision spacing are being drilled completely through a middle. Pins of finely ground drawn steel are driven through these holes, anchoring them firmly. Absence of solder allows you to replace broken pins at your mill.

Here an expert pin-setter is putting on the final touches. This and every other HOLDSWORTH faller is now ready to drop in and run without further adjustment. Always specify HOLDSWORTH FALLERS for complete satisfaction.

TYPES —

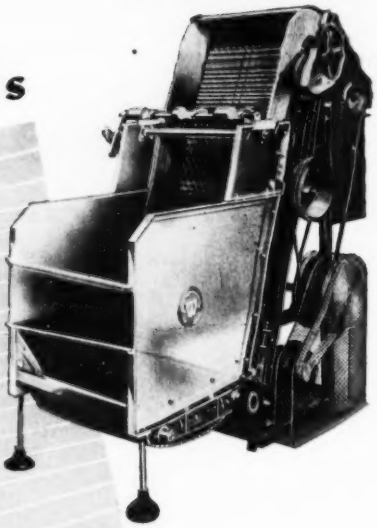
S.A.C.M., new style
Open head, Prince Smith
Schlumberger
Gills
Intersecting, Alsatian
Patented Intersecting
standard Holdsworth
Worsted
Jute

EXPERT REPAIRING OF ANY KIND OF FALLERS!

EXCLUSIVE SALES AGENT

Atkinson, Haserick & Co.
BUSINESS ESTABLISHED 1823
Textile Machinery Agents and Engineers
211 Congress Street Boston 6, Mass.
BRADFORD, ENGLAND, 8 CURRER STREET

automatic feeds



TAYLOR WORDSWORTH'S

Specialities

willeys or wool openers

P-S-S AND LTD

PRINCE-SMITH & STELLS

LIMITED

INCORPORATING TAYLOR WORDSWORTH & CO LTD.

KEIGHLEY — ENGLAND

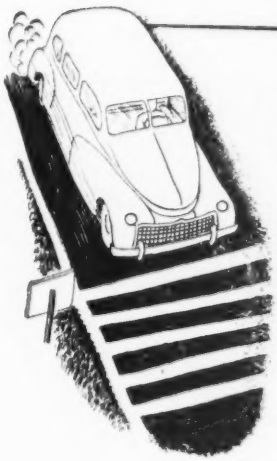
Agents U.S.A. and Canada—English system machinery. Atkinson, Haserick & Co., 211 Congress St., Boston 6, Mass.
Agents, U.S.A.-French system machinery. The Blake Electrical Mfg. Co., 178 Atlantic Ave., Boston 10, Mass.

Barnard

P.S.S. 14

Good, Better, Best

—which is which by Test!



The Hit-the-Road Test

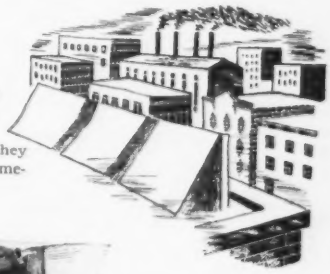
It's a good sign to drive along a turnpike and see a series of white stripes painted across the road. It means the state is on the job. Its public officials are testing the endurance of different paints to determine the best for marking traffic lanes.

The Half-a-Head Test

It's a horrible way to treat a poor innocent girl. But it's big business . . . *important* business. To compare the effectiveness of different shampoos they split a girl's head in halves (figuratively, of course) and do one side with one shampoo, the other side with another.

The Hoboken Test

One of the most prominent laboratories in America tested dyed fabrics by hanging them *for one year* on a roof in Hoboken, N. J. We wondered why they picked Hoboken. They said there was something in the air.



The Dollars-and-Sense Test

It takes good common sense to save important dollars on industrial painting jobs. That is why it's wise to test paints before final specification. After all, it isn't the cost per gallon that counts. It's the *amount* of paint required and the *time and labor* involved that govern the cost of the job. So test. Compare. Yes, compare *by performance* a gallon of any other good paint with a gallon of Barreled Sunlight. See how much more yardage Barreled Sunlight gives you. Clock how much faster Barreled Sunlight goes on. Notice how much whiter, cleaner, more solid Barreled Sunlight looks after drying. You'll be convinced, once and for all, that Barreled Sunlight is the paint that makes sense and saves dollars. It tops any other paint on the market.

Want proof? Write, and a Barreled Sunlight representative will call on you soon.

U. S. GUTTA PERCHA PAINT COMPANY
20-G Dudley Street, Providence, Rhode Island

Barreled Sunlight

Paints

In whitest white or clean, clear, pleasing colors, there's a Barreled Sunlight Paint for every job

—with TUFFER Card Clothing

You have a substantial investment in card room machinery and equipment. Yet the condition of your card clothing vitally affects the return on your investment—because *the card clothing still does the carding.*

Ask a Tuffer man to inspect your card clothing. He is qualified to make recommendations that will return the maximum for your equipment and payroll dollar.

HOWARD BROS. MFG. CO.
WORCESTER 8, MASSACHUSETTS
Southern Plants: Atlanta, Ga. and Gastonia, N. C. **Branches**: Philadelphia, Pa. and Blanco, Texas
Direct Representation in Canada

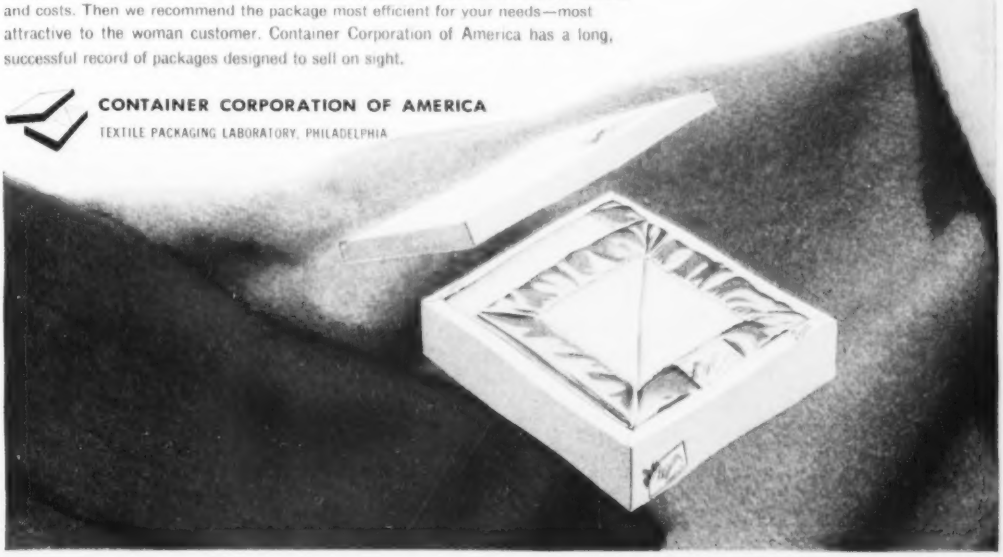
A-4

TUFFER CARD CLOTHING **IMPROVES PRODUCTION ALL ALONG THE LINE**

DESIGNED TO ATTRACT WOMEN

What textiles do you make and market? Baby blankets or bed linen, work clothes or wash cloths? Whatever your product, your package has a twofold job—to protect it, and to attract the woman customer. We can help you do both—better. . . . Let our Textile Packaging Laboratory help add selling power to your package by color, style, design. We research consumer reaction at the point of sale—study your package and label problems—your distributing methods and costs. Then we recommend the package most efficient for your needs—most attractive to the woman customer. Container Corporation of America has a long, successful record of packages designed to sell on sight.

CONTAINER CORPORATION OF AMERICA
TEXTILE PACKAGING LABORATORY, PHILADELPHIA



L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
NEW YORK 16, N. Y.

Telephone: Murray Hill 3-8650

FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

●

ESTABLISHED 1840

NOW

THE NEAREST APPROACH TO...

with new AHCOFIX C

You get WASHFAST cottons and viscose rayons at *lower finished cost* with Ahcofix C . . . a *new*, substantive compound for fixing direct dyes.

Added directly to the creaseproof bath, Ahcofix C gives vat dye washfastness at 140 degrees F. When used separately or in any cationic bath, comparable results are obtained.

Easy to use. It comes in liquid form for instant solubility. Since copper salts are added separately, Ahcofix C gives *better* shade control.

Write today for further information.

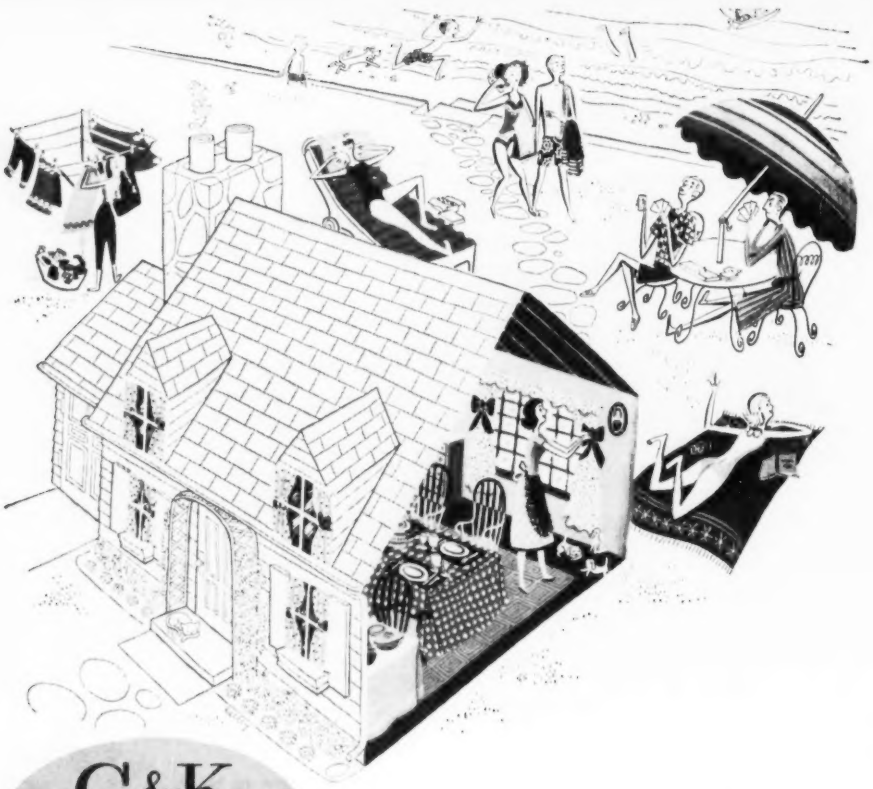
TRADEMARK REGISTERED

ARNOLD, HOFFMAN & CO., INCORPORATED

Established 1815—Plants at Dighton, Mass., Charlotte, N. C. and Cincinnati, Ohio

PROVIDENCE, RHODE ISLAND

NEW YORK • CINCINNATI • PHILADELPHIA • CHARLOTTE

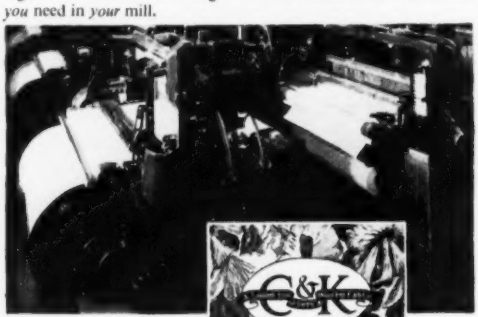


C&K C-LOOMS *cover a multitude of Fabrics!*

Cotton, spun rayon and blends . . . for handkerchiefs, dress goods, shirtings, marquisettes, terrys, hucks, upholsteries, part-wool and all-wool blankets . . . this is the range of C & K's famed family of *endlessly versatile* C-Looms, equipped with dobbies, head motions, cams and jacquards.

This unmatched versatility is based on exclusive C & K features like these: *Convertibility* to operation either as a 4x1 box automatic bobbin-changing loom, or as a 4x4 box non-automatic . . . also with the *Tricolor* feature, which allows automatic bobbin-changing production of fabric with 3 kinds of filling in unchangeable sequence of single picks such as 1 red, 1 white, 1 blue. . . . All-Purpose Take-Up assures adequate tension, provides 4 choices of threading. Other features include full automatic warp let-off, and new feeler mechanism which stops a pick-and-pick loom before filling is exhausted. Also, there's a wide choice of shuttles, accommodating bobbin sizes from $7\frac{3}{8}$" to $10\frac{1}{8}$", with wound diameter up to $1\frac{5}{8}$".

This versatility of C & K C-Looms is a lifesaver (in fact, a mill-saver) in today's competition and quick-changing market trends, for it provides mills with a capacity to produce a wide range of specialties that can't be matched by any other looms. That's why it pays to equip your weaverooms with these new C-Looms, built by the world's largest builders of *proved* automatic looms for mixing colors and kinds of filling. Write for details on the C-Looms *you* need in *your* mill.



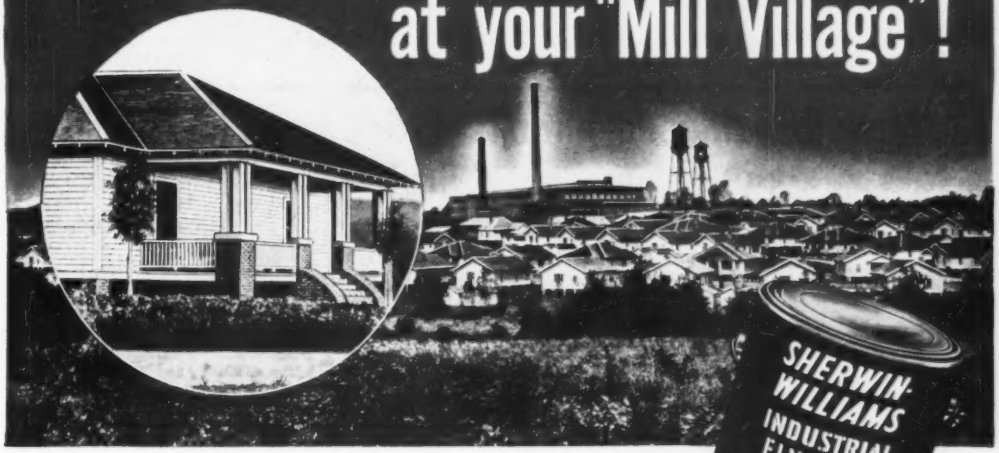
This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS

PHILADELPHIA, PA. · CHARLOTTE, N. C. · ALLENTOWN, PA. · CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

CUT MAINTENANCE COSTS at your "Mill Village"!



Use this short-cut to thrift!

Here's economy . . . top-quality, too! Famous Sherwin-Williams Mill Village Exterior Finish is the best value your paint dollar can buy. Though modest in cost, its handsome appearance and extra-long-wearing qualities can't be beat!

Enjoy the economy of this finish in *your* mill village. And for further savings, use Mill Village Undercoater—to provide an ideally uniformed surface on which to apply exterior finish. Inside buildings, you'll find no paints thriftier than Velvet Semi-Gloss and Velvet Flat. Write for complete details.

The Sherwin-Williams Co., Inc., Industrial Division, Charlotte, N. C., Atlanta, Ga., and Cleveland 1, Ohio. (Export Division, Newark, N. J.)

Compare these extra-advantages of

MILL VILLAGE EXTERIOR FINISH

MONEY-SAVING! Mill Village Exterior Finish stays beautiful . . . does not require repainting for years, saves costly upkeep!

HONEST-FILM-THICKNESS! Mill Village shows no deep brush marks . . . no weak spots in the film, "honest" full coat of paint all over!

QUICKER-DRYING! No sagging or wrinkling. Mill Village dries through and through before heavy dust can collect!

WHITER! BRIGHTER! Whiter whites . . . brighter, more beautiful colors! That "freshly-painted" look lasts for years!

CLEANS ITSELF! Every time there's a heavy rain, Mill Village cleanses itself of any accumulated dirt and grime!

Another Product of SHERWIN-WILLIAMS Industrial Research

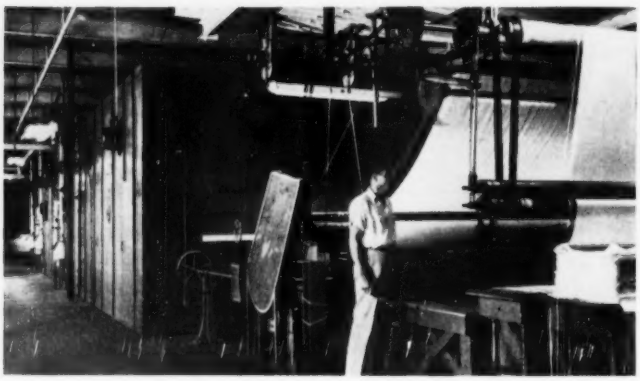
SHERWIN-WILLIAMS
INDUSTRIAL FINISHES

TEXTILE MACHINERY and

PUBLISHED BI-MONTHLY FOR TEXTILE MILL EXECUTIVES AND OPERATING PERSONNEL BY PROCTOR & SCHWARTZ, INC.

JULY 1949

Controlled, balanced air circulation key to improved drying in Proctor wide tenter housings



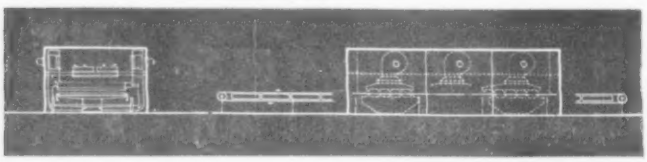
Users are reporting excellent results from several recently installed Proctor housings for use with wide tenters. It is significant to note that not only do these reports indicate high rates of production, but stress the uniform drying that is being obtained with this equipment.

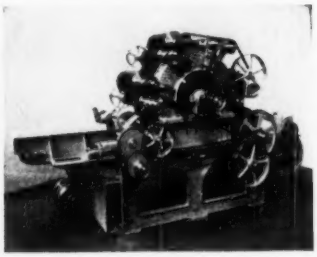
One of the largest contributing factors to the success of these wide tenter housings is the air circulation system employed. High velocity air is impinged against both sides of the material through a completely enclosed high pressure air circulation system with air filtered on each cycle. This circulation is controlled as to total circulation and amount delivered to each pressure flue.

The result of this controlled, balanced air circulation system is maximum production of uniformly dried fabric that is delivered without distortion.

The improved drying that is being accomplished with these systems is typical of results that are being obtained with Proctor tenter housings, not only in handling wide goods—but also where the same basic principles are applied to the design of housings for use with narrower tenters.

If your finishing process calls for tenter drying, investigate the possibilities of modern Proctor housings. Write for information today.





SAMPLE CARD WITH FULL SIZE ROLLS CREATES INTEREST

A sample card that is used regularly in the experimental department of the textile machinery division of Proctor & Schwartz, Inc., has created considerable interest on the part of visitors to the plant.

Sample cards similar to this one, may be built for use in textile mills who wish to run their own samples of carded mixtures.

The unique feature of this sample card is that it cards the material on full size rolls. Workers and strippers are full size except for width . . . which is much narrower than a full size card.

The sample card is clothed with metallic wire which permits the card to strip clean in a minute or two after the sample has been run.

The card illustrated is equipped with a lap drum, but it can be designed and built with a sliver draw off just as readily.

This sample card will prove to be the ideal answer to a need that exists in many textile experimental departments. If you would like to know more about it with regard to price or delivery, write today.

DRYING EQUIPMENT News

MECHANICALLY SIMPLIFIED PREBOARDING MACHINE ATTRACTS WIDE ATTENTION

Since its first general showing to the trade at the Knitting Arts Exhibition early this spring, the Proctor mechanically simplified preboarding machine has attracted wide attention among hosiery men.

The new design eliminates the three hydraulic pistons that were used to raise and lower the boards. These pistons are replaced by a cam which operates mechanically.

Bulletin #337 explains the redesigned equipment in detail and highlights its operating advantages. Write for your copy today.

Research indicates answer to Nylon setting

During the past several months, there has been considerable interest in the subject of setting nylon and other synthetic fabrics.

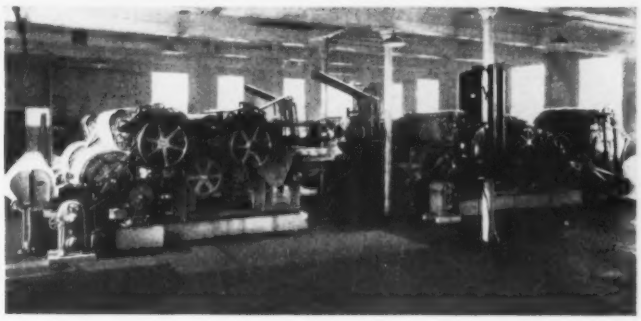
Proctor research engineers have been conscious of this interest and the important part that it will play in the textile industry in the immediate future.

With typical Proctor ingenuity and thoroughness, they have been studying the problem and experimenting. As a result of continuing study the answer to nylon setting seems to have been found.

Proctor engineers will be pleased to pursue this study in detail with the technologists of any textile mill contemplating nylon setting.

Bring your problem in detail and our engineers will work diligently with you to provide you with the right equipment.

Proctor Duplex Garnetts continue to produce top in quality and output



Constant checks on the performance of Proctor duplex garnetts, indicate that this equipment continues to lead the field in both output and quality of work produced.

The advantages of duplex garnetting have been recognized by practical mill men since the first of these garnetts were introduced to the textile industry several years ago. Not only is the opening of the hard ends more complete, but a better blending of component materials is assured, resulting in better work, both in quality and appearance.

One of the features of these duplex garnetts which contributes materially to results obtainable, is the use of Proctor metallic wire. Over the years there has been a growing trend to increasing the number of points per square inch, due to the increased use of surface winding on the finer cylinders. The fineness of the wire as well as the shape, may be varied to suit the requirements of the individual installation. A wide variety of shapes are available that are most suitable for cotton, wool, worsted or synthetic fibers.

The production possible with this equipment varies with the stock—ranging from 50 to 75 pounds per hour with average hard worsted thread wastes. In handling softer stocks, production will, of course, be proportionately higher.

If you are not already thoroughly familiar with this established, reliable equipment—investigate its possibilities without delay. Write for detailed information.

Much of Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending.

Proctor & Schwartz, Inc. • 710 Tabor Road • *Philadelphia 20, Pa*

PERKINS
HOLYOKE
TRADE MARK REG.
SYMBOL of
HIGHEST QUALITY
B. F. PERKINS & SON, Inc.
ENGINEERS AND MANUFACTURERS
HOLYOKE, MASS.
LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

Let You Forget About Atmospheric Hazards

Shown here are four basic types of Century Protected Motors which are designed to resist the dangers of hazardous atmospheres. A properly selected Century motor—with the right protection—is the ideal combination for a long life of satisfactory performance.

1 **Open Protected**—Form J, general purpose motor—meets the needs for most installations where operating conditions are relatively clean and dry. The top half of the motor frame is closed to keep out falling solids or dripping liquids.

2 **Splash Proof Motor**—gives the necessary protection where plants must be washed down—keeps water out of the motor even when a hose is applied directly on the frame. It also provides protection against rain, snow, sleet and ice for outdoor installations.

3 **Totally Enclosed Fan Cooled Motor**—protects against dusts, mist or fog that might be detrimental to the vital parts of the motor. The inner frame protecting the motor is sealed to keep out harmful matter.

4 **Explosion Proof Motor**—protects against atmospheres charged with explosive dusts or gases. They carry Underwriters' label for specific kinds of hazards.

Century builds a complete line of alternating and direct current motors in a wide range of types and kinds—in sizes from 1/6 to 400 horsepower.

Specify Century motors for all your electric power needs.

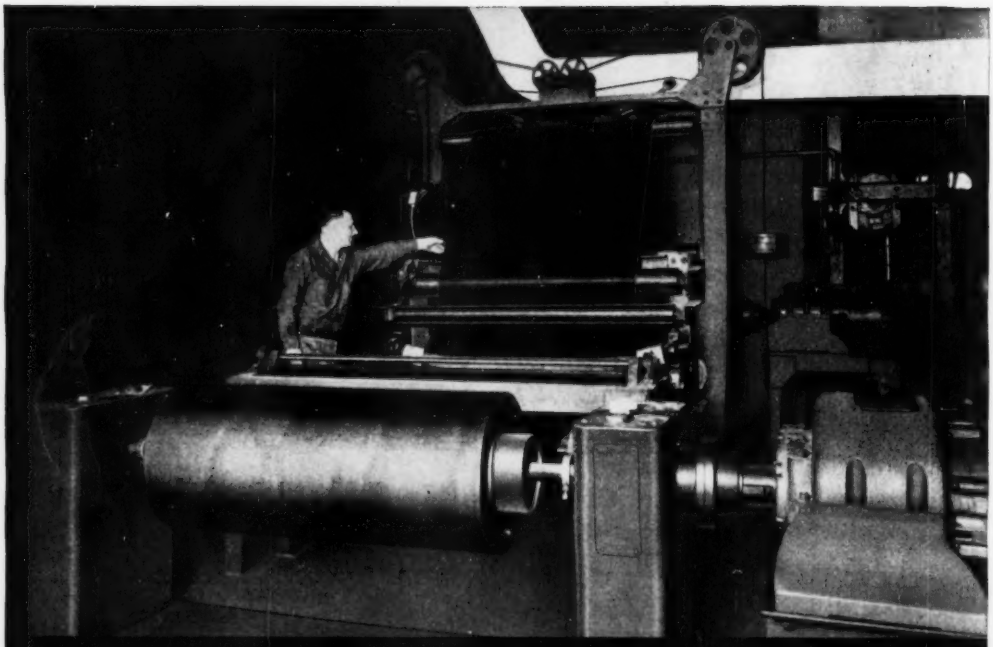
Popular types of standard ratings are generally available from factory and branch office stocks.

-632

Century C MOTORS

CENTURY ELECTRIC COMPANY 1806 Pine Street • St. Louis 3, Missouri

Offices and Stock Points in Principal Cities



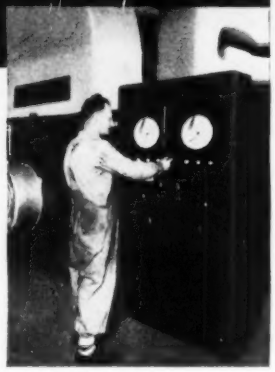
This IOI Gas-Fired Latexing Machine Provides Complete One-Man Process Control

SOUND ENGINEERING, rugged construction, compact design, operating economy—these are some of the basic reasons why this IOI latexing machine, shown above from the wind-up end, yields maximum returns on the investment it represents. Typical of its many outstanding features is the completeness of one-man control of the latexing operation which it makes possible.

In operation at the Inland Rubber Corporation, Chicago, this IOI medium-duty, gas-fired unit is currently operating at 28 YPM. Using two large capacity air heaters, it represents the first practical and successful application of gas in a fabric latexing machine.

The same advantages which characterize this machine—superior engineering, and construction, small space requirements and low operating costs—are incorporated in heavy-duty IOI latexing machines designed for operating speeds of 60 YPM and above. Units are for weftless or woven fabric latexing in train with rubber calender or as a separate operation.

For complete information on IOI Coating and Handling Equipment for Textiles, Papers, Films and Foils write for "Blueprint for Industry, Part V"—or an IOI engineer will be glad to call in person if you prefer.



Panelboard of operating control gear which gives operator complete mastery over every phase of the machine's operation. Note safety dials and main DC control. One of the two direct, gas-fired air heaters is at the left.

FABRIC COATERS AND SYSTEMS • HI-SPEED CONVECTION SLASHERS • LOOP AND FESTOON DRYERS

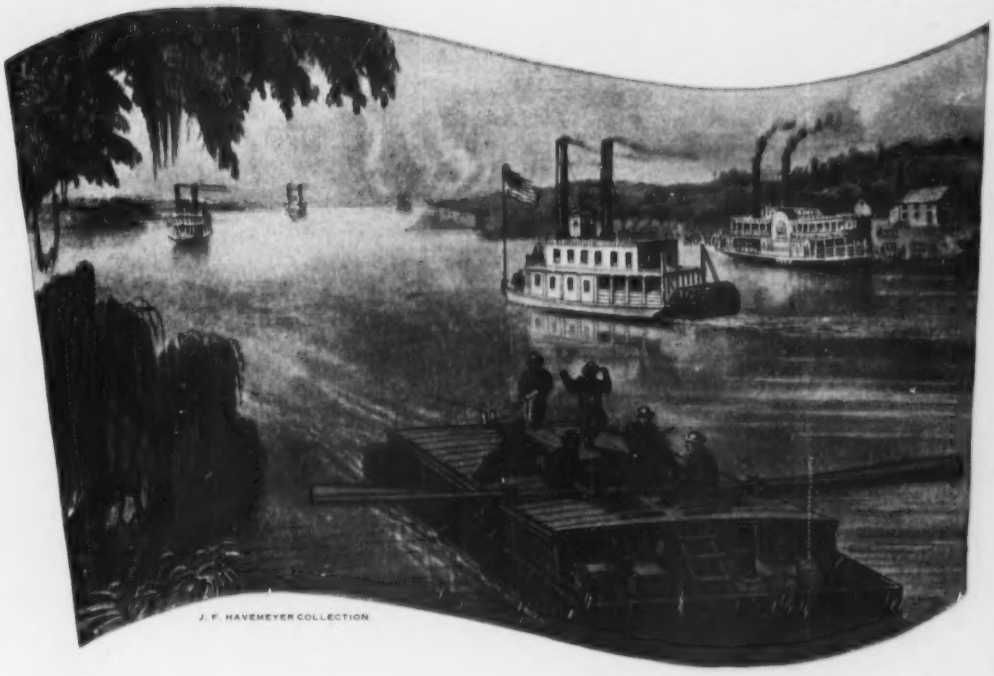
CAKE AND SKEIN DRYERS • CONSTANT TENSION WINDUPS AND UNWIND MACHINES

INDUSTRIAL OVENS, INC.

IOI ENGINEERING VERSATILITY

13825 TRISKETT ROAD CLEVELAND 11, OHIO

Boatmen on the Mississippi must be alert to shoals and shifting currents to get safely to market.
THE ISELIN DIARY, 1859



Take the current when it serves

We must take the current when it serves,
Or lose our ventures.
SHAKESPEARE, JULIUS CAESAR, IV, iii, 223

In 1859, currents in business, too, asked a wary eye of the man piloting a company. For over half a century, Iselin had been helping manufacturers with experienced financial and marketing counsel . . .

Today, our service enables you to take full advantage of favorable business currents—and avoid the shoals of credit losses . . .

You need not lose your venture for lack of adequate funds at the right time.

Our 140 years of financial piloting experience is at your command. Send for booklet on our Factoring service to industry.

William Iselin & Co., Inc.

357 Fourth Avenue, New York 10, N.Y.

FOUNDED IN 1808

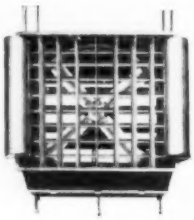
AMCO — *specialists in humidifying and air-conditioning devices*

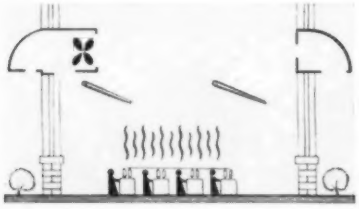
These devices as well as the complete humidification and cooling systems manufactured and installed by the American Moistening Company are the product of sixty years of cooperative research with the textile industry. All Amco equipment shares four important common characteristics . . . simplicity, practicality, capacity and basic economy . . . reasons why Amco equipment is preferred by textile mills.

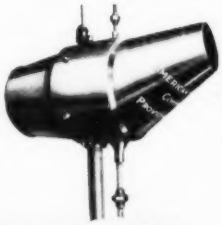
AMCO AUTOMATIC SELF-CLEANING ATOMIZERS provide better spray without drip or feathering down. Automatically clean both air and water orifices. Assure trouble-free humidification. Over 500,000 now serving the textile industry.

AMCO HUMIDITY CONTROL. The supersensitive hygroscopic control element assures exceptionally close regulation of relative humidity. Extremely simple design plus rugged construction for minimum maintenance and maximum durability.

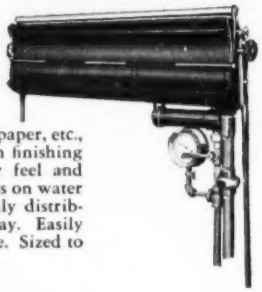
AMCO EVAPORATIVE COOLING UNIT—adaptable to existing humidifying systems and providing extreme flexibility. Promotes comfort and efficiency of workers by maximum cooling effect from evaporation. Introduces outside air into room in amounts regulated by climatic conditions and inside requirements. Amco Evaporative Cooling maintains the relative humidity best suited to the fibres and processes.







AMCO AMTEX HUMIDIFIER. A self-contained unit designed for small areas, such as laboratories, where exacting conditions are to be maintained. No compressed air required.



AMCO DAMPENER, for textiles, leather, paper, etc., to apply moisture in finishing processes for better feel and appearance. Operates on water pressure, gives evenly distributed atomized spray. Easily regulated, adjustable. Sized to your requirements.

AMCO ELECTRO PSYCHROMETERS. An electrically driven fan draws air over wet and dry thermometer bulbs to provide extra accuracy of readings where space does not permit use of sling psychrometer.

AMCO SLING PSYCHROMETER in protective casing. A convenient size for mill use. Thermometers are carefully calibrated and have magnifying type tubes for easy reading.

Write for complete description of any of these AMCO devices or AMCO humidification and cooling systems.

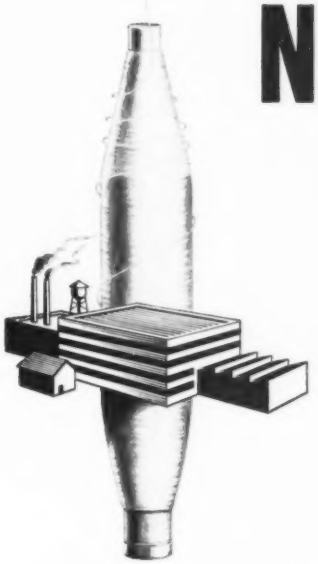
AMCO

HUMIDIFICATION AND COOLING

AMERICAN MOISTENING CO., AFFILIATED WITH GRINNELL COMPANY, INC., PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE

if your business hangs on this...

NOPCO* 1656-R *is a must*



New!

NOPCO 1656-R for better WORSTED production

*T. M. Reg. U. S. Pat. Off.

And by "this" we mean WORSTED yarn. Here we can represent it only as a line . . . but, as you know, it's a line full of significance. For top quality WORSTED yarns, economically produced, mean enduring customer satisfaction, increased sales, greater profit.

And that's where Nopco's NEW 1656-R fits right into your WORSTED production picture. For here's an oil specially formulated to *assure more efficient processing . . . superior quality finished goods.*

You will find Nopco 1656-R:

ELIMINATES static

ELIMINATES oxidation

ELIMINATES *75%* of soap costs (and, by scouring out freely, assures clearer, brighter dyeing)

MINIMIZES broken ends

In a word, Nopco's NEW 1656-R enables the worsted manufacturer to achieve *outstanding results*—comparable to those obtained by users of famous Nopco FUA wool oil in carding, spinning and finishing woolens.

Write us today, and profit by getting all the facts about NEW Nopco 1656-R . . . the remarkable modern aid to better WORSTED production.

NOPCO
EVOLVED THRU RESEARCH

NOPCO CHEMICAL COMPANY

Formerly National Oil Products Company

HARRISON, NEW JERSEY

Branches: Boston • Chicago • Cedartown, Ga. Richmond, Calif.

fanning the flames of '49's hottest

Fashion Cotton Promotion

fashion accents crisp!
AGREES DESIGNER
frances sider
Miss Sider interprets the important new "crisp look" with this striking sarong skirt (starched with LINIT*) worn over an elasticized swim suit of the same Ever-fast cotton print.
The Crisp Look is the smart look for 1949..."Starch with LINIT!" say the leading dress designers ...this superior laundry starch makes a thin mixture that penetrates the fabric, restores its original finish...keeps it crisp, fresh, cool-feeling between washings...LINIT is easy to use, safe, perfect.
LINIT
PERFECT LAUNDRY STARCH
..adds the "finishing touch"
to dresses, blouses, children's clothes, housecoats, men's shirts, curtains, bed and table linens. Directions on every LINIT package. All grocers sell LINIT.
*LINIT is a registered trade mark of Corn Products Refining Co., N. Y.

THE CRISP LOOK OF SUMMER COTTONS

... Was launched by Corn Products Refining Company with a spectacular fashion show February 2.

... Is headlined month after month in LINIT Starch ads (mostly full color!) in *Life, Ladies' Home Journal, McCall's, Woman's Home Companion*—16 national magazines *with circulation exceeding 30 million.*

... Has inspired major editorial features in seven fashion-setting magazines during April, May, June ... and in newspapers across the country.

... Has been hailed by America's ready-to-wear leaders as summer's Number One cotton promotion theme.

Cultivate the Crisp Look for bumper sales!

CORN PRODUCTS SALES CO.

Suppliers of Starches for The Textile Industry

17 Battery Place **New York 4, N. Y.**

WHITIN Model "K"

Selective Type Trap Twister

For Economy and Ease of Operation

For modern large package twisting, more and more of today's Woolen and Worsted mills — particularly carpet and papermakers' felt mills — are using Whitin Model "K" selective type Trap Twisters with marked success, both from the standpoint of economy and ease of operation.

These 7½" gauge twisters have individual control on each component yarn, resulting in all knots being in the single yarn, thereby eliminating ply knots. The two spindle 2" tape drive assures positive and uniform twisters. Ample creel space is provided for the twisting of 2, 3 and 4 ply yarns from cops, mule and frame bobbins. 6" rings and 9¾" traverse produce a twister spool holding from 36 to 42 ounces of yarn depending on the number of plies and turns of twist.

The Model "K" Twister has special auto-lubricated rings which assures long life to rings and travelers at high spindle speeds. The sturdy ring rail is vibration-free and the whole machine is built low, permitting easy access to the creel by the operative.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS
CHARLOTTE, N. C. • ATLANTA, GA.

Announcing

A New Product for DYERS and PRINTERS

LOMAR PW the new dispersing agent developed by Jacques Wolf & Co., assures more efficient and economical processing.

• *In Dyeing*

Level shades and uniform absorption of dyestuffs by the fibres, depend largely upon an even dispersion of colors in the dyebath. The addition of a small amount of LOMAR PW in pasting up indanthrenes or acetates solves this problem.

• *In Printing*

When added to the printing paste, LOMAR gives finer particle suspension, improved flow and smoother consistency. By keeping the colors in suspension, LOMAR PW assures efficient, economical results.

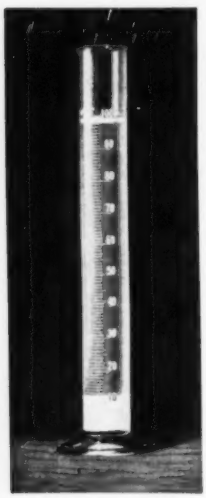
• *In Backfilling*

In backfilling, LOMAR PW is added to the heavy backfill mixture of clay and starches to give uniform suspension of the clay, good flowing properties and more uniform results on the fabric.

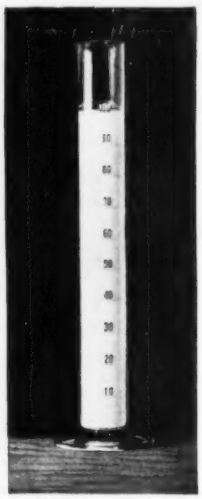
For complete information on LOMAR PW, send today for your copy of Bulletin No. 21.

TYPICAL OF THE DISPERSING ACTION OF LOMAR PW

The contents of these two graduates are identical, except for a small percentage of LOMAR PW. Note the continued even suspension and dispersion in the right hand graduate after standing ten times as long as the one at the left.



Blanc Fixe after 30 minutes — no dispersing agent



Blanc Fixe after 5 hours — plus LOMAR PW

Plants and Warehouses

Plants: Passaic, Carlstadt, N. J.; Los Angeles, California

Warehouses: Providence, R. I.; Philadelphia, Pa.; Utica, N. Y.; Chicago, Ill.; Greenville, S. C.; Chattanooga, Knoxville, Tenn.

WOLF BRAND PRODUCTS

JACQUES WOLF & CO. *Chemicals* PASSAIC, N. J.

DUAL DELIVERY
for better pin control on yarns prior to roving

QUAD DELIVERY
for fullest advantage of this new type of drafting on light weight sliver

Warner & Swasey Pin Drafter

TRADE MARK

IMMEDIATE PROFITS TODAY... BIGGER PROFITS TOMORROW

You can use these new type pin drafters *right now* with your present machines, and get faster production and better quality fabrics.

...and they will pay even more *tomorrow* as other improved textile machines become available for the eventual universal system.

Our Field Engineer in your territory is experienced and can give you complete information.

BRANCH OFFICES

Rivulet Mill
Uxbridge, Mass.

19 No. Harrison St.
E. Orange, N. J.

Candler Bldg.
Atlanta, Ga.

WARNER & SWASEY
Cleveland
TEXTILE MACHINERY DIVISION

You can do it better, faster, for less . . . . . with a Warner & Swasey

. . . and nobody wants

sheers that wilt, either!

When sheers droop, sales drop! And then it's goodbye to the profits on those seasonal favorites—the organdies and marquisettes, the ninons, nets and nylons.

But this year it can be so different!

For SHEERSET FINISH shrugs off damp, humid weather . . . keeps sheers crisp and stabilized.

Women who buy and wear sheers will see the difference! SHEERSET gives firm texture and cuts shrinkage almost to the vanishing point. Sheers stay clean longer and pastel pigment colors stay bright.

Yes, SHEERSET is the remedy for sales that drop because of sheers that wilt. Our technical staff is ready now to show you how to use this new sales builder for sheer fabrics.

FOR DURABLE CRISPNESS

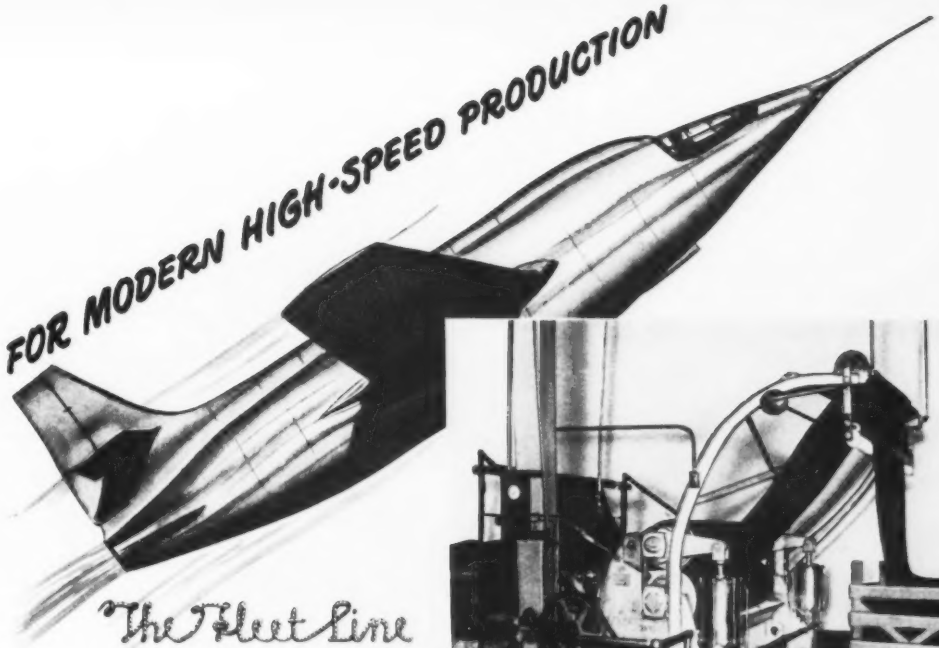
Sheerset FINISH

AMERICAN Cyanamid COMPANY
TEXTILE RESIN DEPARTMENT

BOUND BROOK, NEW JERSEY
Tel. Bound Brook 9-0500

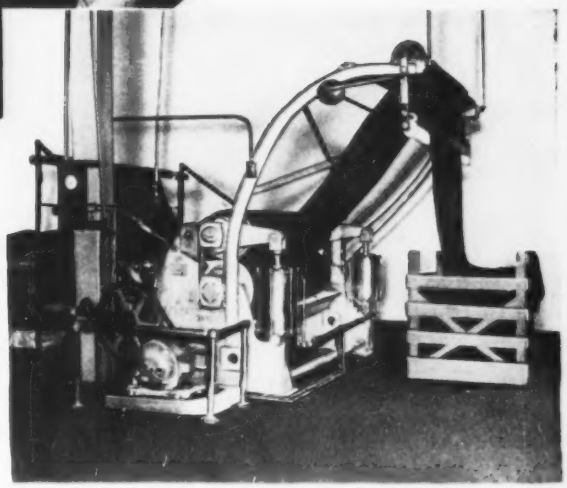
30 ROCKEFELLER PLAZA, N. Y. 20, N. Y.
Tel. Circle 7-0100

NEW YORK • PHILADELPHIA • PROVIDENCE • CHARLOTTE • CHICAGO



The Fleet Line

SQUEEZE ROLL EXTRACTOR



This machine meets the demand for modern high speed production and in so doing does not sacrifice efficiency. Rolls are operated with compressed air, which automatically equalize roll pressure from end to end. Extra heavy roller type bearings assure long life and minimum maintenance.

OTHER FEATURES

1. Suitable for all types of fabrics and for range operation.
2. Massive construction assures long life.
3. Finger tip pneumatic control from central panel.
4. Rolls rubber covered; rubber adapted in thickness and composition to type of work.

Fleet Line Squeeze Rolls are made in 11 different types, with air pressure or spring pressure and with rolls from 6" to 18" in diameter. Further information on request.

RIGGS & LOMBARD, INC.

FOOT OF SUFFOLK STREET, LOWELL, MASS.

DOMESTIC AGENTS: — Paul A. Merriam, 1491 Broad St., Providence, R. I.; Harold C. Osler, 6312 Sherwood Road, Philadelphia, Pa.; Charles H. Dunker, 1236 South Maple Ave., Los Angeles 15, Calif.; Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Ill.

EXPORT AGENTS: — Latin America — Meyer, Lyra & Co., 228-229 Fulton St., N. Y., N. Y.; Egypt, Palestine, India — Arlind Corp., 509 Madison Ave., N. Y., N. Y.; South Africa — Hoel P. Hunt, Pty., Ltd., Embassy House, 326 West St., Durban, South Africa; China — G. R. Coleman & Co., Inc., 50 Church St., N. Y., N. Y.

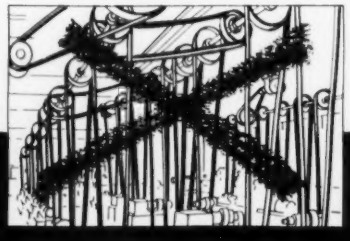
A COMPLETE LINE of modern equipment to successfully handle present day wet-finishing, carbonizing and dyeing requirements.

When You Modernize Your Mill Drives
CHECK THESE "UNI-PULL" ADVANTAGES

- There's just one belt . . . long-lived leather
- One, uniform pulley grip
- No separate tensions that can become uneven
- No part of the belt can loat . . . it pulls as a unit
- Automatically maintains proper belt tension
- Easier on bearings
- Instantly adjusts for momentary, peak-loads
- Gives a smooth, fast start . . . fewer ends down

These advantages result in less maintenance and greater production than you can get from any other type of belt drive.

Ask your leather belting supplier how to use the Uni-pull drive in modernizing your mill.



AL-39

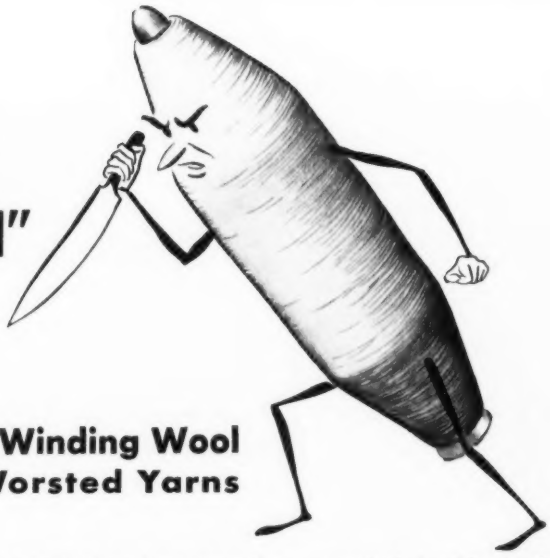
American LEATHER BELTING Association

Headquarters for Authentic Power Transmission Data

41 PARK ROW, NEW YORK 7, NEW YORK

COLOR SELLS TEXTILES
The best in designing is a good investment.
Protect that investment with the best in
yarn dyeing.
Franklin Process
LARGEST PACKAGE DYERS IN THE WORLD
Providence • Philadelphia • Greenville • Chattanooga
New York Representative—40 Worth Street

BE READY FOR "CUTTING ACTION"



When Winding Wool and Worsted Yarns

THE "CUTTING ACTION" of wool and worsted yarns, particularly of hard twist worsted yarns, is something to reckon with in the winding department. Unless machinery parts are made expressly to cope with it, maintenance costs will be prohibitive.

Cutting action is not a serious problem with the Foster Model 102, for all parts contacting the yarn, including traverse guides, are made of hardened metals, specially selected for the purpose.

Replacements are required only at infrequent intervals and represent a relatively minor expense. The cost runs as low as $3.50 per 100 spindles per year in some cases. Furthermore highly paid mechanics are not required to make repairs or adjustments.

Low maintenance and repair costs are only one part of the Foster Model 102 story. Consider also these FLEXIBILITY FEATURES:—

1 Will wind any kind and any count of yarn from fine-combed cotton or spun rayon for tropical fabrics to heavy wool yarns for arctic cloths.

2 Will wind a straight base cone for warping or a convex base cone for knitting with a simple adjustment.

3 Will produce 9 different angles of wind from 9° to 18°. Important if you radically change your count or type of yarn.

4 Will wind package dyed yarn, even if damp. No jumping out of guides.

5 Will wind emulsion treated yarn. In fact, it is frequently equipped with an emulsion attachment.

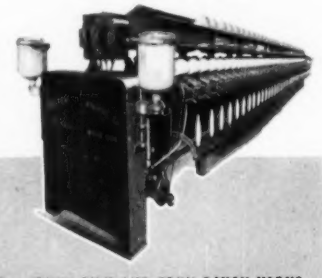
6 Changeovers from cones to tubes, or vice versa, are comparatively inexpensive.

7 One side can wind cones and the other tubes, if desired.

Bulletin A-91 on request

FOSTER MACHINE CO., Westfield, Mass.

Southern Office—Johnston Bldg., Charlotte, N. C.
Canadian Representative—Ross Whitehead & Co., Ltd., University Tower Bldg., 660 Ste. Catherine St., West, Montreal, Quebec
European Representative—Muschamp Taylor Ltd., Manchester, England



FOSTER MODEL 102

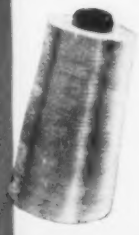
FOR WINDING COTTON • WOOL • WORSTED • MERINO • MERCERIZED • SPUN SILK AND SPUN RAYON YARNS

Market Building

WITH FIBERGLAS* YARNS!

Tough fabric specifications are solved by the versatile characteristics in these yarns! For example . . .

FIBERGLAS YARNS IN
Electrical Insulation Harness Millions of Horsepower!
Plastics Give Strength and Endurance to Laminates and Mouldings for Hundreds of Uses!
Waterproof Membrane Fabric Give Backbone to Hot Asphalt on Countless Construction Jobs!
Strong and Fireproof Fabric Coated with Vinyl are Building New Convertible Auto-Top, Awning and Tarpaulin Markets!



- HIGH TENSILE STRENGTH
- DIMENSIONAL STABILITY
- NONCOMBUSTIBILITY
- RESISTANCE TO OILS & ACIDS
- RESISTANCE TO MILDEW & ROT
- EXCELLENT ELECTRICAL PROPERTIES
- LASTING BEAUTY

These are just a few of the thousands of applications in which Fiberglas Yarns strengthen and improve products for industry, commerce, transportation, and the home. There are many ways to take profitable advantage of the remarkable characteristics of these glass fiber yarns. To solve your problems on new constructions or improved products, write or phone today for Fiberglas technical representative. Our research experts are at your service—either in your mills or in our textile laboratory. Owens-Corning Fiberglas Corporation, Textile Products Division, 16 East 56th Street, New York 22, N. Y.

OWENS-CORNING FIBERGLAS CORPORATION MAKES ONLY THE FIBERGLAS YARNS—NOT THE FINISHED PRODUCTS.

*FIBERGLAS IS THE TRADEMARK (REG. U. S. PAT. OFF.) OF OWENS-CORNING FIBERGLAS CORP., FOR A VARIETY OF PRODUCTS MADE OF OR WITH GLASS FIBERS.

OWENS-CORNING FIBERGLAS Yarns

In Canada: Fiberglas Canada Ltd., Toronto, Ontario.

Wyandotte can supply your needs for the chemical of a thousand uses

Few chemicals claim such a wide range of applications as *Caustic Soda*.

As one of the nation's oldest and largest producers of this basic alkali, Wyandotte Chemicals Corporation today supplies several industries with the specific grades of Caustic they require for most efficient production.

To members of the Rayon Industry, for example, Wyandotte furnishes Mercury Cell Caustic, a product that meets the most rigid standards for purity and uniformity. It is shipped in "rubber"-lined tank cars to arrive essentially iron-free and ready for immediate use.

This and other grades of Wyandotte Caustic Soda go into the processing of hundreds of chemicals, soap, dyes, foods, textiles, vegetable oils, pulp and paper, pharmaceuticals, rubber, cleaning compounds, petroleum, photographic chemicals and countless other products.

No matter what your Caustic Soda requirements may be, you can rely on Wyandotte for prompt, dependable deliveries — together with any technical assistance you may need.

Wyandotte Chemicals Corporation
Wyandotte, Mich. • *Offices in Principal Cities*

SODA ASH • CAUSTIC SODA
BICARBONATE OF SODA
CALCIUM CARBONATE • CALCIUM CHLORIDE
CHLORINE • HYDROGEN • DRY ICE
SYNTHETIC DETERGENTS • GLYCOLS
CARBOSE (Sodium CMC) • ETHYLENE DICHLORIDE
PROPYLENE DICHLORIDE • CHLOROETHERS
AROMATIC SULFONIC ACID DERIVATIVES
OTHER ORGANIC AND INORGANIC CHEMICALS

Wyandotte
REG. U. S. PAT. OFF.

UNION SPECIAL*

Faster Seaming!

Among users of industrial sewing machines, UNION SPECIAL is a name that has come to mean *Faster Seaming* . . . also more work with less effort and expense. Union Special has not come by this name without good reason. Every Union Special machine you buy is specially designed and built to help you handle your particular production job BETTER . . . FASTER . . . and CHEAPER. For recommendations, see your local Union Special representative, or write.

THIRTY-NINE-TWO

The modern machine for seaming and overedging light to medium weight knit fabrics. Now made even better with improved lubrication and thread handling for greater output with less effort. Ask for recommendations.

*®

Ask for copies of these **BULLETINS**

- *No. 254* — "Efficient Production of Men's Knit Underwear." Modern sewing equipment for manufacturing operations.
- *No. 255* — "Machines for Making Women's Knit Underwear." Information and recommendations on machines, seams, and stitch types.

UNION SPECIAL MACHINE COMPANY

403 N. Franklin St. • Chicago 10, Illinois

INDUSTRIAL SEWING MACHINES

FOR YOUR INFORMATION

Wool Spinners' Report

Actual reports from mills tell how Syton delivers better, lower-cost production for worsted and woolen spinners. Identifying information has intentionally been deleted from the following excerpts, but each represents a bona fide report of Syton's success at a specific mill.

Speed-up of cards

"Syton has permitted a speed-up of the cards equivalent to 5% or more. Net yield of cloth from fibers placed in process appears to be 3 to 3½% better."

Finer Counts

"The entire mill . . . is now running on Syton with good results. Top, 64-70's was being spun into 46's and 50's yarn. By the use of Syton, the mill has been able to spin 60's and 64's from this stock. This is not only a difficult spin but an expensive yarn for an expensive fabric. A check on all the spinning frames revealed only two ends down."

"Mill is convinced it can now spin with Syton a yarn that is four counts higher than the limit spin for untreated stock. From the top of an average of 54's grade, 32's are easily spun and sometimes 36's yarn. From 58-60 top, 36's are regular production."

Increased yarn yields

"Mill which is now using Syton on all its blends is realizing about 3½% increased yarn yields, 5 to 10% greater card speeds, and improved spinning. These figures are based on production of about 700,000 pounds of stock."

Faster Carding

"Card room now is running five days a week and keeping the weave room on a six-day shift. Previously it was necessary to run the cards six days to keep the weavers busy five days per week. Part of the credit for faster carding was due to a change in stock. Syton is credited with a minimum increase of four per cent in card-room production."

Better carpet yarns

"In this mill's years of spinning carpet yarns, there never was sufficient condensing of the fibers at the aprons until they used Syton."

Fewer ends down

"Mill used Syton on a difficult 50-50 wool-rayon blend, making a 36's yarn, and reduced ends down from 200 to 50."

For more information on the product, or technical help, just send the handy coupon.

NEWS from Mills on Acetate Sizing

For surface-saponified acetate

Mill reported that a 5% formula did an excellent job for surface-saponified acetate. Weaving results were better than ever attained previously.

Less filling breaks

Representatives of two mills highly pleased with Stymer; one mill reports less filling breaks when weaving on Stymer warps.

Non-Stop

Mill is pleased with Stymer for acetate and reports that seven looms are running with no 'snowballs' or stops.

Weaving efficiency up

Mill reports weaving efficiencies of Stymer-sized warps on 10 looms are from three to six per cent higher than those sized with gelatin.

STYMER Mill Data Record

The following data taken from an actual mill run is typical of Stymer's performance on the slasher and on the loom.

WARP DATA
Yarn 75/20/3 Bright Acetate
Sley 104 Ends 4108 Yards 40,000
Picks 76
Style Taffeta

SIZE MIX
Strength 5% Formula 42 lbs. Stymer S Temperature 150°F Gals. 100
Remarks: Stymer S added to hot water with vigorous agitation boiled for 30 minutes. Clear, uniform solution. No difficulty in preparation.

SLASHING DATA
Type Johnson 7 Can Speed: 30 yds. per min.
Size Roll—Bare Rubber Roll
Can 1 No. 1–160°F No. 2–180°F No. 3–200°F No. 4–210°F
Temperatures 1 No. 5–210°F No. 6–200°F No. 7–150°F
Can Coverings None Stretch 3%
Appearance: Uniform well sized yarn
Remarks: Slashing performance was excellent—warps characterized by flexibility and smoothness of handle.

WEAVING DATA
Loom Speed: 150 ppm.
Relative Humidity: 70% Temperature—82°F
Weaving Efficiency: 95%
Remarks: Stymer sized warps wove most satisfactorily. Weaving results were superior to standards previously attained for this construction.

When costs are high...

Now, when operating schedules have been cut, it's more important than ever to get the last dime of profit from current production. Syton and Stymer help mill men do that with higher quality at lower cost.

SYTON for wool spinning

Woolen and worsted spinners clip costs with Syton because this dispersion gives them from 10%-to-30% more yarn strength. Added yarn strength, for example, gives mills fewer ends down during spinning and weaving . . . better roping condensation, reduced fly and card waste. Many mills report they can increase salability by spinning blends hitherto impractical. Almost all mills say they can spin any stock to a finer count with Syton. Better production, at lower cost!

STYMER acetate size

Acetate Mills produce less expensively with Stymer size which forms a tough, smooth, flexible film. In slashing, Stymer doesn't stick to uncovered dry cans, it stops static electricity troubles, and doesn't waste valuable mill time by setting in the pipes or size box. In weaving, Stymer-sized warps show little or no shedding, maintain yarn twist, and have fewer end breaks. Greater efficiency, greater economies!

MONSANTO
CHEMICALS — PLASTICS

SERVING INDUSTRY . . .
WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY, Textile Chemicals Department
Desk TWT 19, Everett Station, Boston 49, Mass.

Please send me information on
Syton Stymer

Name Title

Company

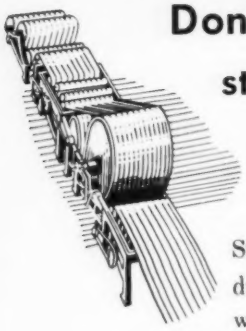
Address

City Zone State

Syton, Stymer: Reg. U. S. Pat. Off.

STALEY

HAS THE PRECISION-MADE STARCH TO MEET YOUR OWN PARTICULAR NEED...



Don't be satisfied with just any textile starch when you can get exactly the Right Starch from *Staley!*

Staley specializes in supplying the textile industry with the *right* starch for weavability, weight and finish. "Eclipse" Mill Thin Boiling Starches are standardized within very close fluidity limits. Staley offers a complete range of thin boiling starches to meet your own particular needs.

Staley guarantees that each shipment will be to exact specifications, consistently high in quality. WRITE TODAY for more details about Staley's plan of cooperation with textile mills—a plan that has been in operation successfully for more than a quarter of a century!

DEPENDABLE SERVICE FROM THESE POINTS

ATLANTA, GA.
SPARTANBURG, S. C.
PHILADELPHIA, PA.
SAN FRANCISCO, CALIF.
NEW YORK, N. Y.
BOSTON, MASS.
DALLAS, TEX.
CHICAGO, ILL.
DECATUR, ILL.

Staley's CORN AND SOY BEAN PRODUCTS

STALEY "ECLIPSE" MILL* AND PEARL STARCHES

*THIN BOILING

A. E. STALEY MFG. CO., DECATUR, ILL., U. S. A.

SUCCESSFUL GIFT PACKAGE
— *IN CORRUGATED*

At the H & D Package Laboratory, leather and wood and linen patterns are often simulated in corrugated board. Distributors of specialty items, are capitalizing on H & D ingenuity and craftsmanship to sell merchandise. Relatively inexpensive, distinctive in appearance, rugged in construction, these H & D corrugated boxes are a complement to the highest quality products.

FLUORESCENT LIGHTS
Shipped Safely in CORRUGATED BOXES

A complicated problem of packaging fluorescent fixtures—odd-shaped, bulky, fragile—has been solved with an H & D engineered box which has reduced the entire packing operation to a mere 70 seconds! An ingenious arrangement of six interior pieces of corrugated board provides more than ample protection. The packed product can be stacked and loaded and shipped as safely as any other type of merchandise — thanks to H & D package engineering.

PRODUCT QUALITY
is reflected by
The Package

FAMILY NAME FEATURED
in "Look-Alike" Packages

Quick, easy identification and selection are important where the same product is made in several sizes and several models. Automotive parts, for example, win greater dealer acceptance when the packaging plan includes simplicity, legibility and convenience. *The H & D boxes shown here effectively display the manufacturer's name, conserve shelf* space, give necessary product information, simplify inventory-taking, require no repacking, provide ample product protection.

H&D BOXES

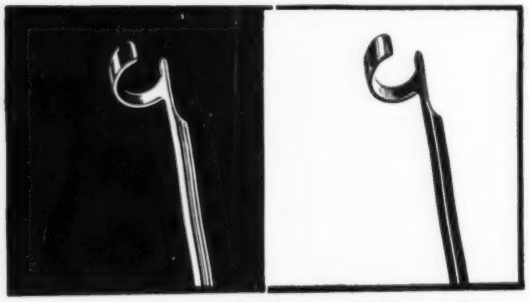
FOR MORE INFORMATION WRITE

HINDE & DAUCH

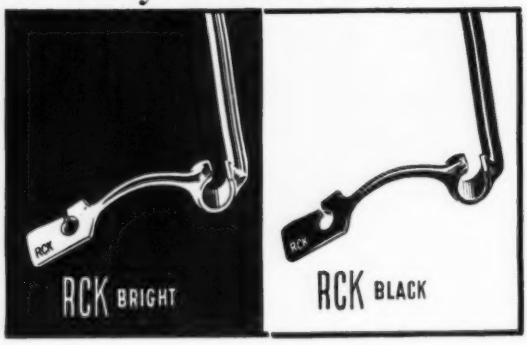
Authority on Packaging

Executive Offices: 4901 Decatur St., Sandusky, Ohio

FACTORIES IN:



Try IDEAL for . . . . →



RCK PRESSERS

QUALITY

Made of highest grade steel accurately molded and machined to standard specifications.

BALANCE

Scientific weight distribution assures perfect balance under operating conditions.

SIZE

Pressers for all sizes of flyers from 6 x 3 to 12 x 6 inclusive.

FINISH

Available in the famous RCK glossy black and RCK bright—both finishes are highly polished and extremely durable.

DELIVERY

Orders filled from stock —usually the same day they are received.

GUARANTY

Every Ideal presser is guaranteed to give complete satisfaction . . . it is permanently stamped with the initials "RCK" for immediate identification.

IDEAL MACHINE SHOPS, INC.

BESSEMER CITY, NORTH CAROLINA

25TH YEAR OF CONTINUOUS SERVICE TO TEXTILE MILLS

Your Good Name

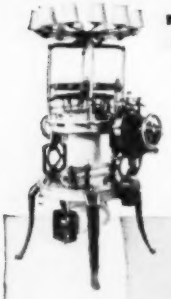
as a manufacturer of seamfree hosiery—or any other type of knitted merchandise—always depends on the quality of the knitting itself. No other factor has a more definite or sustained sales appeal. The precision-controlled temper, finish and over-all dimensions of Torrington Needles will help you safeguard the reputation for quality you have built up so painstakingly. Make it a rule to always use the needles in the famous Red and Green box.

THE TORRINGTON COMPANY

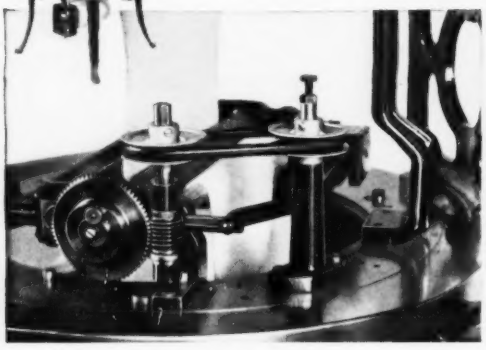
TORRINGTON, CONN., U.S.A. *Established 1866*

Branches: New York • Philadelphia • Chicago
Greensboro, N. C. • Boston • St. Louis • Toronto, Canada
Pacific Coast Representative: E. G. Paules, 1762 West Vernon Ave.,
Los Angeles 37, California. In England: Broadgate House,
7-10 Eldon Street, London E. C. 2

There's a TORRINGTON Needle for every type of Knitting!

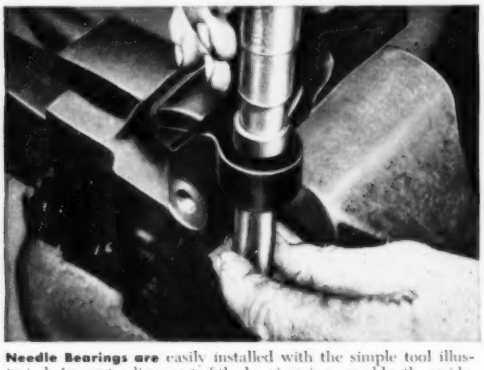


Torrington Needle Bearings Aid Smooth Fabric Takeup in Wildman Circular Knitting Machines



This is the fabric takeup mechanism used on circular knitting machines made by Wildman Manufacturing Company. Designed to maintain a delicate uniform tension on the fabric, it is equipped with Torrington Needle Bearings for smooth operation.

The small size of Needle Bearings makes them ideal for this application. Fitting into a small housing on the worm gear bracket, they permit the use of a large shaft for strength and rigidity. A low starting torque assures quick, easy response to the pulley drive.



Needle Bearings are easily installed with the simple tool illustrated. Accurate alignment of the bearings is assured by the guide. Since the bearings take a firm press fit, there are no spacers or retainers required to complicate the economical design.

The assembly is completed by slipping a hardened and ground shaft through the bearings, to serve as the inner race. The design's simplicity is matched by its reliability: Needle Bearings have been used here for over thirteen years without a replacement.

You can secure the benefits of anti-friction operation economically by using compact, high-capacity, efficiently lubricated Torrington Needle Bearings. Our engineers will be glad to assist you in adapting them to your equipment. Write us today. THE TORRINGTON COMPANY, Torrington, Conn., or South Bend 21, Ind. District offices and distributors in principal cities of United States and Canada.

TORRINGTON *NEEDLE* **BEARINGS**

Needle • Spherical Roller • Tapered Roller Straight Roller • Ball • Needle Rollers

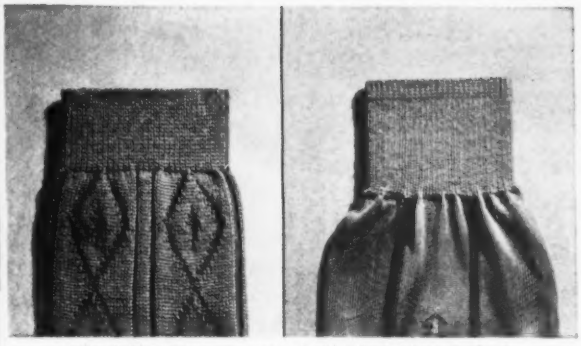
First of a Series of New Devices for Increasing the Profits of Mills Operating Scott & Williams Knitting Machines

SCOTT & WILLIAMS *Announces*

A New Automatic Rubber Furnishing Device

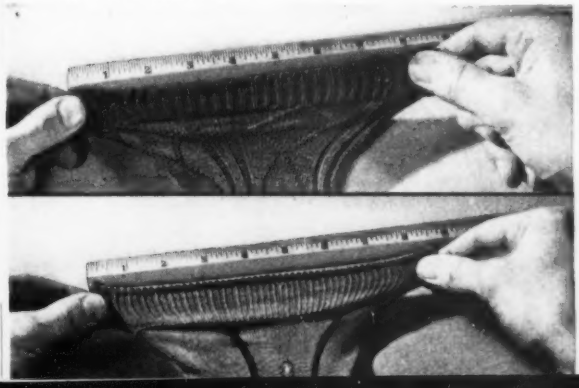
For Komet, Komet Links-and-Links and HH-PW Machines

The new device eliminates yarn drag from the cone and delivers the yarn, under the desired uniform tension, between traction faced cones. Device handles all weights of rubber yarn. Nothing to get out of order.



(Above)—The uniform appearance of rubber hosiery tops provides a new and powerful sales feature. Tight or loose courses, a principal cause of seconds, are eliminated.

(Below)—Greater stretch and uniform elasticity assure better fit and longer wear for any size leg, thus offering new selling opportunities for both mill and retail store.



The Scott & Williams Automatic Rubber Furnishing Device assures—

1. **Delivery of rubber yarn at uniform tension**
2. **Elimination of seconds due to tight and loose rubber thread courses**
3. **Uniform ribbed rubber tops of maximum stretch**
4. **Elimination of production waste and delays due to rubber yarn breakage**

This new Rubber Furnishing Device is easily installed, completely automatic and self-contained. Tension of the rubber yarn is always uniform and can be set as required. The device is immediately available for use on the Komet, Komet Links-and-Links and HH-PW machines and will be ready for other models in the near future.

The new standard of uniformity of stretch it provides, plus the improved appearance of the fabric tops, spells better wearer satisfaction and greater profits. Call your Scott & Williams representative for complete details.

S·W

SCOTT & WILLIAMS, INC.

Established 1865

MAIN OFFICE AND PLANTS: LACONIA, NEW HAMPSHIRE

Sales Office: Empire State Building, New York 1, N. Y.

Divisional Offices: High Point, N. C., Reading, Pa., Chattanooga, Tenn.

Industrial EXPERIENCE

As manufacturers of hundreds of steel tanks and other allied products since 1908, the Chattanooga Boiler and Tank Company has accumulated a wealth of industrial application experience.

Our services consist of designing, fabricating and erecting storage and dry-materials handling equipment for chemical and processing industries.

Whether you need pressure vessels, gravity bins, hoppers, kettles, pans or pipe, the skilled workmanship and efficient production supervision associated with Southland Steel Products, assure you dependable operation and economical maintenance.

CHATTANOOGA BOILER and TANK CO.

Chattanooga, Tenn.

OVER 40 YEARS OF SERVICE

STEEL SOUTHLAND PRODUCTS

TO AMERICAN INDUSTRY

Condor Whipcord Endless Belt with Patented Extensible-Tip

Where machinery operation must be smooth, fast, or at constant speed . . . where take-up facilities are limited . . . where atmospheric conditions are severe . . . CONDOR WHIP-CORD Endless Belts boost production.

They run smoothly because the stretchless cord strength members are continually wound and imbedded in Flexlastics with no splice in the body of the belt. A high degree of flexibility permits high speeds on short centers. Belts are prestretched in manufacture to practically eliminate inelastic stretch on the drive.

Manhattan's patented Extensible-Tip is a method of splicing the cover end with an inseparable series of Flexlastic "rivets." This eliminates seam separation, protects the belt against atmospheric variations and deterioration. Belt life is prolonged 3 to 10 times. This boosts production, too, because of fewer shut-downs for belt adjustment and replacement.

Condor Whipcord Endless Belts are recommended for all open drives operating at any speeds. They are obtainable in several driving surfaces for special conditions and also in Non-Spark, Oil-Proof types. Try this modern transmission belt construction on your next order.

Folder No. 6869-C will be sent on request.

Keep Ahead with Manhattan

MANHATTAN RUBBER DIVISION — PASSAIC, NEW JERSEY

RAYBESTOS-MANHATTAN, INC.

Manufacturers of Mechanical Rubber Products • Rubber Covered Equipment • Radiator Hose • Fan Belts • Brake Linings • Brake Blocks • Clutch Facings • Packings • Asbestos Textiles • Powdered Metal Products • Abrasive & Diamond Wheels • Bowling Balls

NEW SHEAVE *Changes Speed*

OTHER COST-CUTTING ALLIS-CHALMERS PRODUCTS FOR TEXTILE MILLS!

QUICK-CLEAN AND LOOM MOTORS FOR DEPENDABLE POWER

Quick-Clean motors, the original wide-open textile motors, now have ball bearings lubricated and sealed at the factory. They need no attention for years. Proper lubrication is assured and usual bearing maintenance procedures are eliminated. Sizes from 2 to 15 hp. *Loom motors*, immediate delivery, totally-enclosed, non-ventilated type, ¾ and 1 hp.

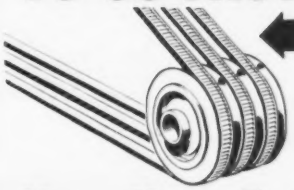
DIELECTRIC HEATERS FOR FAST, LOW-COST DRYING

Outstanding records in many textile mills for faster twist setting, cake drying and other drying operations. This method offers better quality control because of close heat control . . . and greater product uniformity because heat is uniform throughout material regardless of thickness. Results cannot be duplicated by any other process.

Without Stopping

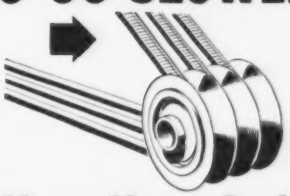
INSTANT SPEED CONTROL AT LOWER COST THAN EVER BEFORE

TO GO FASTER



Move Motor Forward

TO GO SLOWER



Move Motor Back

---- ONE HAND DOES IT...*While Motor is Running*

★ Covers most speed changing needs from 3 to 20 hp.

★ Extremely simple—one sheave does all.

★ Infinite variations to approximately 2:1 speed range.

★ No need to stop machine or take load off.

Here is the simplest, lowest cost way ever devised of changing machine speeds without stopping the machine. Simply move the motor forward to increase speed and move it back to decrease speed. The new *Vari-Pitch* Automatic Sheave adjusts groove width and side pressure to the new belt position *automatically*. Proper belt tension is always maintained. All other parts of the drive are standard *Texrope* V-belt drive components.

This new method of speed control means easier, better control of loom, spinning frame, and other machine speeds. Speed can be adjusted instantly for changes in materials, to get every last ounce of production from each machine. You lose no production because the machine continues to operate.

The Vari-Pitch Automatic Sheave saves you money three ways . . . low initial cost . . . higher production from each machine . . . less down time for changes. Get complete details from your A-C Authorized Dealer or Sales Office or write for Bulletin 20B7223.

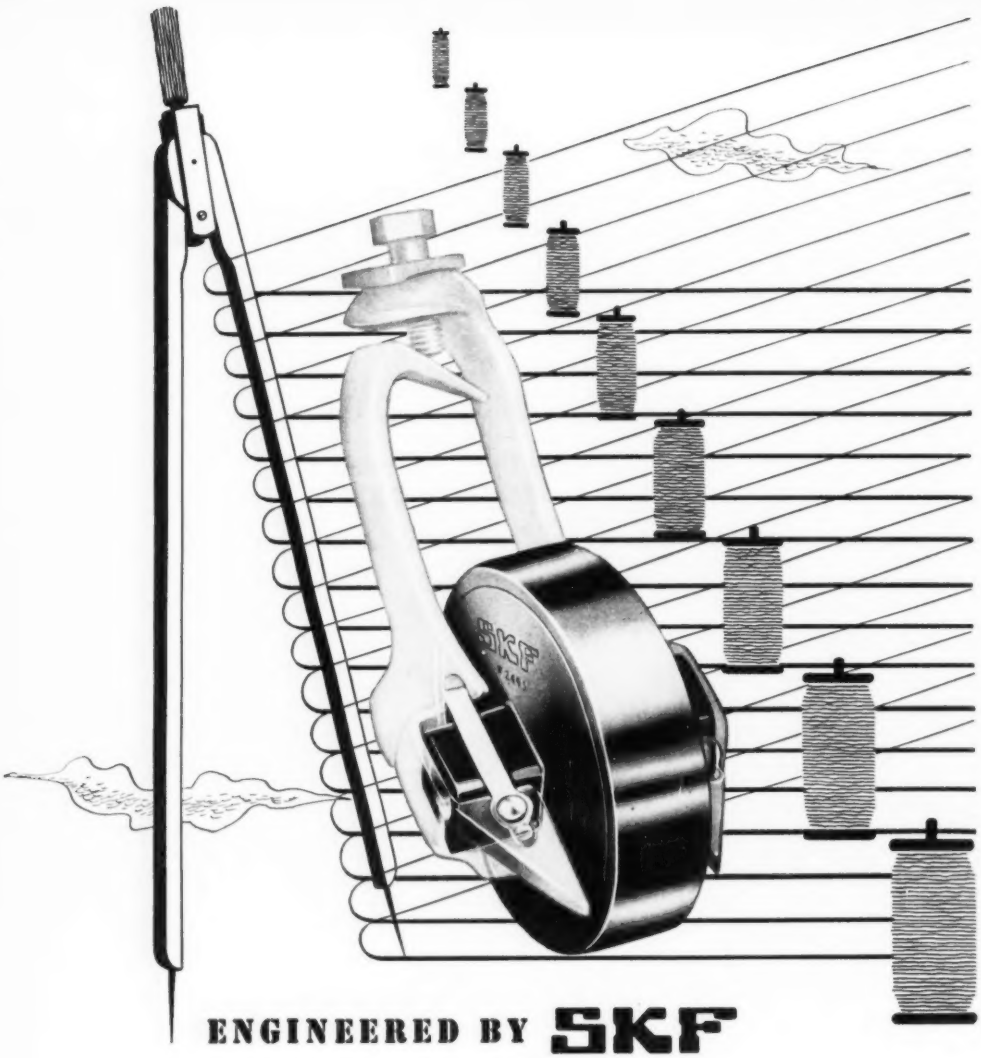
ALLIS-CHALMERS, 1056A SO. 70 ST.
MILWAUKEE, WIS.

Texrope, Vari-Pitch and Quick-Clean are Allis-Chalmers trademarks.

ALLIS-CHALMERS

A-2731

Originator of the Multiple V-Belt Drive for the Textile Industry



ENGINEERED BY SKF

Tremendous strides have been made in spinning frame performance since tape drives superseded the old band drives. SKF originated the anti-friction tension pulley for tape drives in the textile industry.

SKF has pioneered again to provide a ball bearing tension pulley to fit existing brackets, thus eliminating change-over expense.

The bearing in this pulley is positively sealed against all lint and fly and is prelubricated to run without attention for 25,000 service hours. It saves power and maintenance costs. It assures uniform spindle speed.

7026

SKF INDUSTRIES, INC., PHILADELPHIA

SKF BALL AND ROLLER BEARINGS

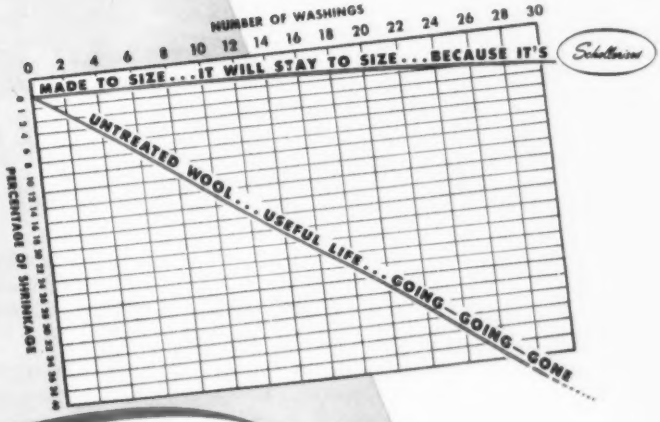
The right bearing in the right place

LIFE ASSURANCE

for your wool product!

HERE'S A GRAPHIC "LIFE HISTORY" THAT TELLS A VITAL STORY...

Because SCHOLLERIZING is so *practical* — so consistently *uniform* in results . . . so comparatively *simple* to apply, more and more alert wool-products manufacturers are deciding upon the Scholler process for wool shrinkage control!


NUMBER OF WASHINGS
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
MADE TO SIZE...IT WILL STAY TO SIZE...BECAUSE IT'S Scholleriz'd
PERCENTAGE OF SHRINKAGE
UNTREATED WOOL...USEFUL LIFE...GOING—GOING—GONE

No elaborate, costly or specialized mechanization set-ups are required for application of the Scholler Wool-Shrinkage Control Process.* The simplicity is amazing. Once inaugurated in a plant, no greater labor skill than is now already available, is necessary. No critical point is reached during application of the process that might cause damage to the fibre or affect the efficiency of shrinkage control.

*U.S. & Foreign Patents Pending

made to size...it will stay to size...because it's

Scholleriz'd
WASHABLE WOOL
SAFE TO TUB • SAFE TO RUB

Write Today For Full Details On The Amazing Scholler Wool Shrinkage-Control Process applied to YOUR product!

SCHOLLER BROTHERS, INC.

Manufacturers of Scouring, Dyeing and Finishing Materials

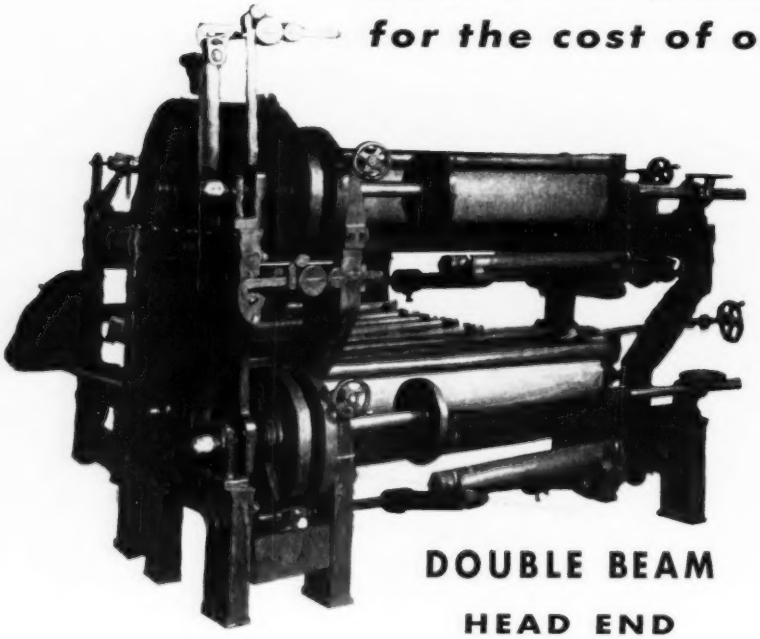
COLLINS at WESTMORELAND, PHILADELPHIA 34, PA.

IN CANADA: SCHOLLER BROTHERS, LTD., ST. CATHARINES, ONTARIO

SERVING THE TEXTILE INDUSTRY FOR MORE THAN FORTY YEARS

RUN TWO BEAMS

for the cost of one



DOUBLE BEAM HEAD END

W.P.F.&M.

MANUFACTURERS OF:

Conventional Slasher Machinery

Slasher Modernization Equipment

Size Boxes, Kettles and Special Equipment

Special Textile Machinery and Repair Parts

Loom Beam, Barrels and Beam Heads

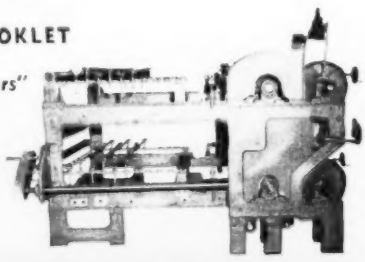
This unit is designed to fully utilize the drying capacity of your slasher cylinders. It is particularly applicable when it's necessary to run light sets on standard width slashers.

Two loom beams, up to 26" diameter and 44" between heads, can be run simultaneously—almost doubling the output of your present slasher equipment. Beams, rigidly supported on a double frame, are driven by lever friction. All journals are equipped with ball bearings for smoother, more efficient operation.

WRITE FOR FREE BOOKLET

"Cotton Slashers"

It describes the above unit and other special Slasher equipment produced by W.P.F.&M.



Manufactured by

WEST POINT FOUNDRY & MACHINE CO.

WEST POINT, GEORGIA

Rapidogens® for printing

fast colors on cotton, rayon and linen

brilliant colors outstanding for clarity and depth.

extensive color range many important shades are exclusively GDC.

fastness excellent fastness to washing—very good fastness to light.

powders and solutions both forms are available.

application develop rapidly in acid ageing—many can be developed in neutral ageing.

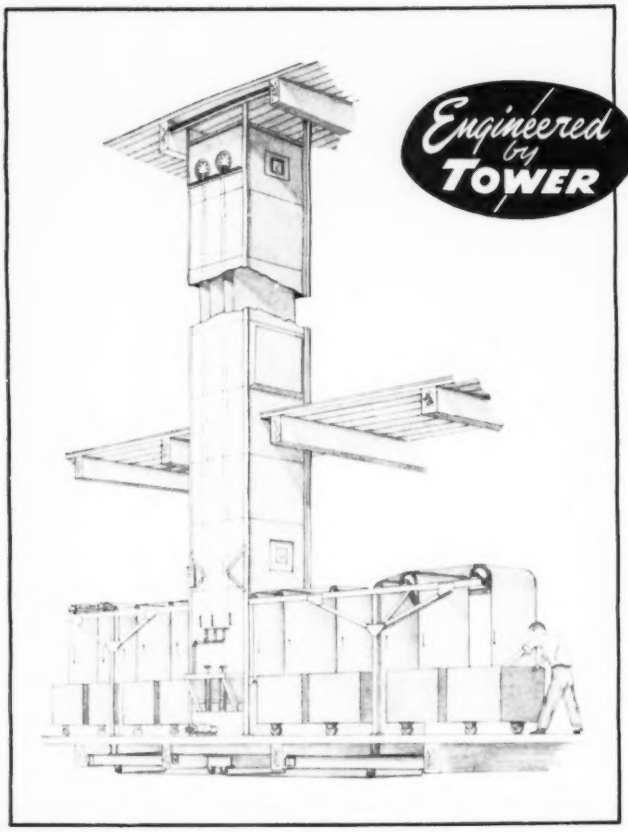
versatility can be printed alongside Indanthrenes and Algosols.

economy combine quality with ease of application.

GDC **GENERAL DYESTUFF CORPORATION**

435 HUDSON STREET • NEW YORK 14, NEW YORK

BOSTON • CHARLOTTE • CHICAGO • PHILADELPHIA • PROVIDENCE • SAN FRANCISCO



This unit is capable of handling 4 ends . . . steam chested at sides and top, with auxiliary steam chesting at bottom. The design can be adapted to provide variable exposure time for vat dyeing or acid ageing.

STAINLESS STEEL VERTICAL AGER

BUILT FOR ONE OF THE LEADING SCREEN PRINTING PLANTS

BENEFIT from the many advantages of stainless equipment in shaping your modernization plans. Let Tower assist you. Our Textile Division, in charge of O. B. Graichen, can design and build any type of ager for pad steam dye range or printing. Mr. Graichen's years of specialization in dyeing and finishing installations, combined with our engineering staff and complete fabricating facilities, offer you unified engineering, manufacture and installation of any special machinery you may have in mind.

- AGERS
- PADS
- MANGLES
- JIGS
- OPEN WIDTH WASHERS
- ROPE WASHERS
- STAINLESS STEEL ROLLS OF ALL TYPES
- STAINLESS STEEL BOXES
- STAINLESS STEEL BOX TRUCKS
- STAINLESS STEEL KIERS—TANKS

Write to O. B. Graichen, Textile Division, or 'phone Gaspee 1-4715

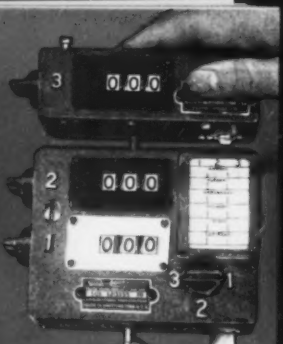
FOUNDED 1835 ★ OUR 2ND CENTURY OF SERVICE

TOWER IRON WORKS

PROVIDENCE • RHODE ISLAND

Cut Meter for pre-determined doffing of looms.

Worm-drive Counter for recording linear units.



2-3 Convertible Pick Counter for recording loom output.

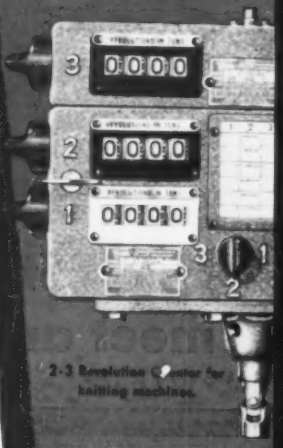
You can COUNT on VEEDER-ROOT ...all through your mill

For looms, frames, or knitting machines . . . for recording picks, cuts, hanks, revolutions, linear units, or whatever *you* want to count . . . there are direct-reading Veeder-Root Counters for the job you need done.

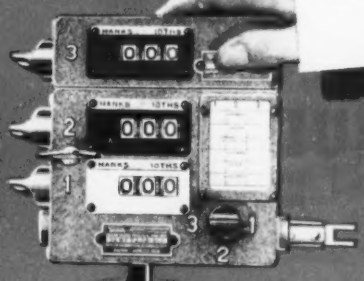
Here are some of the standard Veeder-Root Textile Counters shown in Catalog T-48. And if it takes a *special* counter to fill your bill — then's when it pays to remember that Veeder-Root has the longest engineering experience, plus the most modern plant and resources, to work your problem out most speedily and successfully. Yes, on *any* counting problem, *it pays to count on Veeder-Root.*

Hand Tally Counter for checking ondoffers, idle looms, etc.

Clutch Speed Counter for checking speeds of loom crankshafts, spinning frame shafts and front rolls, etc.



2-3 Revolution Counter for knitting machines.



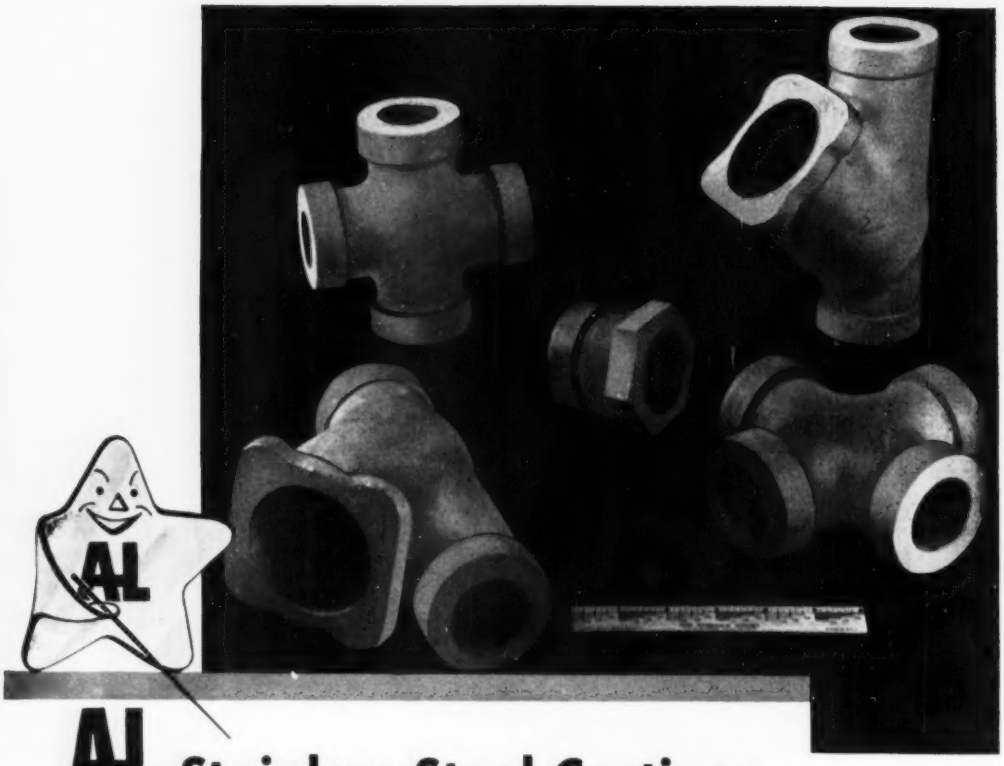
2-3 Convertible Hank Counter for frames, slubbers, spoolers, twisters, etc.

New No. 1248 Magnetic Counter (AC or DC) used as totalizer on carpet looms, for counting gill box stops; also used on bobbin strippers and other machines.

New No. 1260 General-Purpose Counter for counting strokes, revolutions, etc.

In Canada: Veeder-Root of Canada, Ltd., 955 St. James Street, Montreal 3
In Great Britain: Veeder-Root Ltd., Kilspindie Rd., Dundee, Scotland

VEEDER-ROOT
INCORPORATED
HARTFORD 2, CONNECTICUT • GREENVILLE, SO. CAROLINA



AL Stainless Steel Castings meet any need for Cleanliness

Data on the Uses of ALLEGHENY METAL in Various Industries

Available *now*—informative booklets on Allegheny Metal in the Chemical, Petroleum Refining, Brewing, Meat Packing, and Dairy Industries—others in preparation. Write for this valuable data on the field in which you are interested.

ADDRESS DEPT. T-77

Note the clean, sound, fine-grained appearance of the Allegheny Metal sanitary fittings shown above, in the "as-cast" condition. They're typical of the wide variety of stainless steel castings we produce for the chemical processing, food, dairy, beverage, oil, paper and textile industries, etc.—wherever the purity and quality of products must be maintained, and where ease of sanitation and assurance of long, trouble-free service are prime considerations.

Allegheny Metal castings are produced by methods specially developed to protect uniform quality and guard against defects. You'll find them superior both from the standpoint of machinability and soundness. ● Let us quote on your stainless casting requirements—any shape and any size, from a few ounces to 5000 pounds.

ALLEGHENY LUDLUM STEEL CORPORATION
Pittsburgh, Pa.

Nation's Leading Producer of Stainless Steels in All Forms

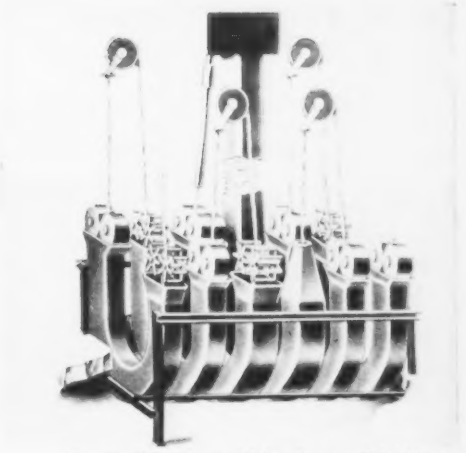
AL

W&D CAST

ALLEGHENY METAL is stocked by all Joseph T. Ryerson & Son, Inc. warehouses

Now!

Continuous low-cost, quality bleaching



Courtesy: H. W. Butterworth & Sons Company, Philadelphia, Pa.

Butterworth "Junior" Bleaching unit, single stage system, showing Squeezer, "U"-type Washers, Saturator and J-Box. Note compact size of the bleaching unit and stainless steel construction. Two-stage units are also available.

for the smaller plant . . . specialty bleaching in larger plants

New "Junior" Unit Designed Around Principles of

DU PONT CONTINUOUS PEROXIDE BLEACH

With the new Butterworth "Junior" Unit, all the advantages of continuous bleaching are now available to the smaller finishing plant. This new unit is ideal for use where production does not warrant a full-sized continuous bleaching range. And it's a most useful auxiliary unit for specialty work in larger mills which have standard units. Extremely compact, the single-stage bleaching unit was developed around the outstanding principles featured in Du Pont Continuous Peroxide Bleaching.

Only 13 feet long, 16 feet wide, and 25 feet maximum overall height, the "Junior" permits low-cost continuous bleaching of knit goods or cotton piece goods in a fraction of the floor space formerly required. And it is functional and efficient . . . handles cloth at an average rate of 50 yards per minute.

The new Unit is a complete operating job fully equipped with Squeezer, Washer, Saturator, J-Box, reels, motors, instruments and auxiliary equipment. The specially designed J-Box handles 300 to 600 lbs. of cloth per hour, gently and efficiently, with tension control devices.

With this new unit, it's possible to get high-quality bleaching, continuously and economically. What's more, only one man is needed to operate the unit.

For more information on this new development, and on Du Pont Continuous Peroxide Bleach, send the coupon below.

DU PONT
CONTINUOUS PEROXIDE BLEACHING

DU PONT

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department, Wilmington 98, Del.

Please send me more information about Du Pont Continuous Peroxide Bleaching Systems.

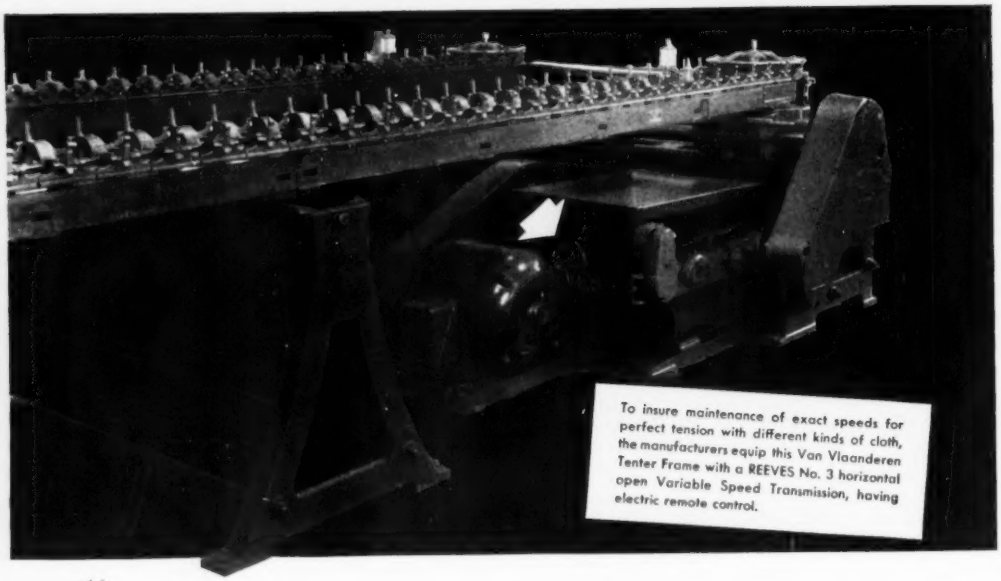
Name_____ Title_____

Firm_____

Street & No._____

City_____ State_____

The Industry's Finest Machines are equipped with Reeves Speed Control



To insure maintenance of exact speeds for perfect tension with different kinds of cloth, the manufacturers equip this Van Vlaanderen Tenter Frame with a REEVES No. 3 horizontal open Variable Speed Transmission, having electric remote control.

Proudly, year after year, builders of the textile industry's finest machines announce their newest creations—machines that are the "last word" in quality and quantity of production. And, more frequently than not, REEVES Speed Control is one of the featured advantages. No other speed control method is so simple in design and in operation, so accurate and dependable, none enjoys such high "acceptance" in the industry.

REEVES Speed Control offers accurate, infinitely variable speed adjustability, to meet any change of product, kind or condition of material, temperature, moisture content, etc. Speed control is instantaneous without stopping the machine.

Look for the name REEVES on the machine you buy, and let us tell you how to equip your older machines for greater production and lower costs, with REEVES Speed Control. Ask for a REEVES representative to call, or write for catalog W18-450A.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

Recognized Leader in the Specialized Field of Speed Control Engineering

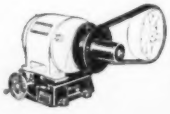
ACCURATE • VARIABLE

Reeves Speed Control

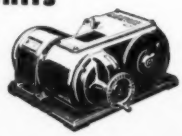
GIVES THE RIGHT SPEED FOR EVERY JOB!

The Three Basic Reeves Units

VARIABLE SPEED TRANSMISSION for providing infinite, accurate speed flexibility over a wide range—2:1 to 16:1. Sizes—fractional to 87 hp.



VARI-SPEED MOTOR PULLEY provides an instantly variable speed drive within 4:1 ratio for any constant speed motor. Sizes to 10 hp.



MOTODRIVE combines motor, speed varying mechanism and reduction gears in single unit. Speed variations 2:1 to 6:1 inclusive. Sizes to 20 hp.

STANDARD Durene*

makes it easier for you to produce and sell more knit goods...

Made of Durene multi-ply mercerized combed cotton yarn
4 WAYS BETTER than ordinary cotton yarns
EXTRA COMFORT ---more absorbant
EXTRA STRENGTH ---longer wear
EXTRA QUALITY ---lasting lustre
EXTRA SERVICE ---easy to wash

*Reg. U.S. Pat. Off.

If you are a Durene licensee or plan to be—you will want to get your share of the new business being created by the big new national Durene campaign starting April in Saturday Evening Post, Good Housekeeping and Ladies' Home Journal.

One of the surest ways to get your share is to run STANDARD Durene – ***produced under our complete control from raw cotton to finished yarn — 10's to 120's ply, natural, bleached and dyed.*** Ask the STANDARD representative nearest you for recommendations.

STANDARD DURENE • SAK GASSED and MERCERIZED THREAD YARNS

STANDARD · COOSA · THATCHER CO.

SELO • PREEMO • THREADS

CHATTANOOGA 1, TENN.

Sales Office: 123 S. Broad St., Philadelphia 9, Pa.

Branch Offices: New York 16, N.Y. 185 Madison Ave. · Chicago 54, Ill. Merchandise Mart · Greensboro, N. C. Guilford Building · Reading, Pa. 509 Walnut St. · Utica, N.Y. P. O. Box 105

Representatives in Central and South American Countries

the SOURCE you can depend on for all your Piping Needs

How CRANE is set up to give you better service

Take the water supply piping shown here, for instance. First, in one **complete line,** Crane gives you the largest selection of equipment—**valves, fittings, pipe line accessories, and pipe.** The Crane Catalog makes it easy to specify—**easy to order**—all piping materials for your installation.

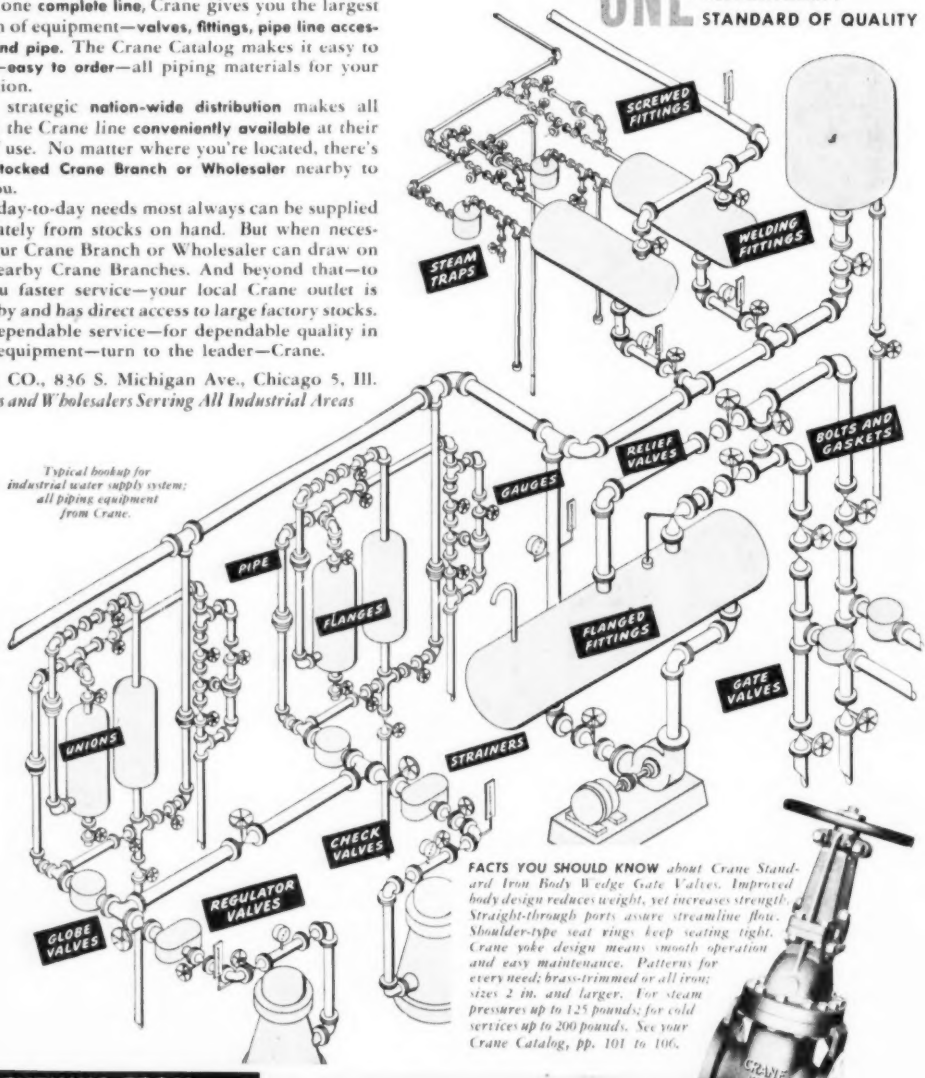
Next, strategic **nation-wide distribution** makes all items in the Crane line **conveniently available** at their point of use. No matter where you're located, there's a **well-stocked Crane Branch or Wholesaler** nearby to serve you.

Your day-to-day needs most always can be supplied immediately from stocks on hand. But when necessary, your Crane Branch or Wholesaler can draw on other nearby Crane Branches. And beyond that—to give you faster service—your local Crane outlet is backed by and has direct access to large factory stocks.

For dependable service—for dependable quality in piping equipment—turn to the leader—Crane.

CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

ONE SOURCE OF SUPPLY
RESPONSIBILITY
STANDARD OF QUALITY



Typical hookup for industrial water supply system; all piping equipment from Crane.

FACTS YOU SHOULD KNOW *about Crane Standard Iron Body Wedge Gate Valves. Improved body design reduces weight, yet increases strength. Straight-through ports assure streamline flow. Shoulder-type seat rings keep seating tight. Crane yoke design means smooth operation and easy maintenance. Patterns for every need; brass-trimmed or all iron; sizes 2 in. and larger. For steam pressures up to 125 pounds; for cold services up to 200 pounds. See your Crane Catalog, pp. 101 to 106.*

EVERYTHING FROM . . .

VALVES • FITTINGS
PIPE • PLUMBING
AND HEATING

CRANE

FOR EVERY PIPING SYSTEM

the end of horse and buggy days

for stainless sheet and strip

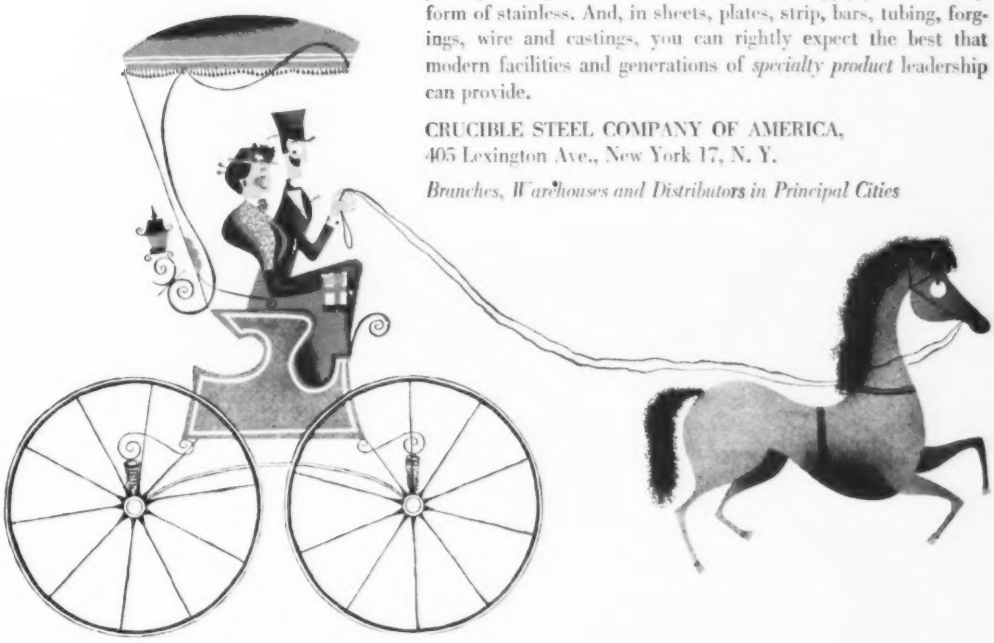
Automobiles were once designed as horseless carriages—even to the dashboard socket for a needless whip. Stainless steel production, too, once struggled thru horse and buggy thinking. More power, heavier rolls, more care in surface finish—and stainless sheet and strip came forth a step-child of carbon steel methods. Today's modern strip mills have changed this, giving stainless production new concepts of quality.

CRUCIBLE, one of the pioneers in stainless steel, has gone still further. Now, *for the first time*, hot and cold rolled stainless steel is made a *specialty product*, by specialty production methods, in a mill built specifically for this purpose—in widths from ½" to 50" inclusive, and in all gauges, grades and finishes.

This is more than merely another source of supply. For, with this new mill at the Midland Works and the Trent Tube Co. joining the organization, CRUCIBLE can now supply you with *every* form of stainless. And, in sheets, plates, strip, bars, tubing, forgings, wire and castings, you can rightly expect the best that modern facilities and generations of *specialty product* leadership can provide.

CRUCIBLE STEEL COMPANY OF AMERICA,
405 Lexington Ave., New York 17, N. Y.

Branches, Warehouses and Distributors in Principal Cities

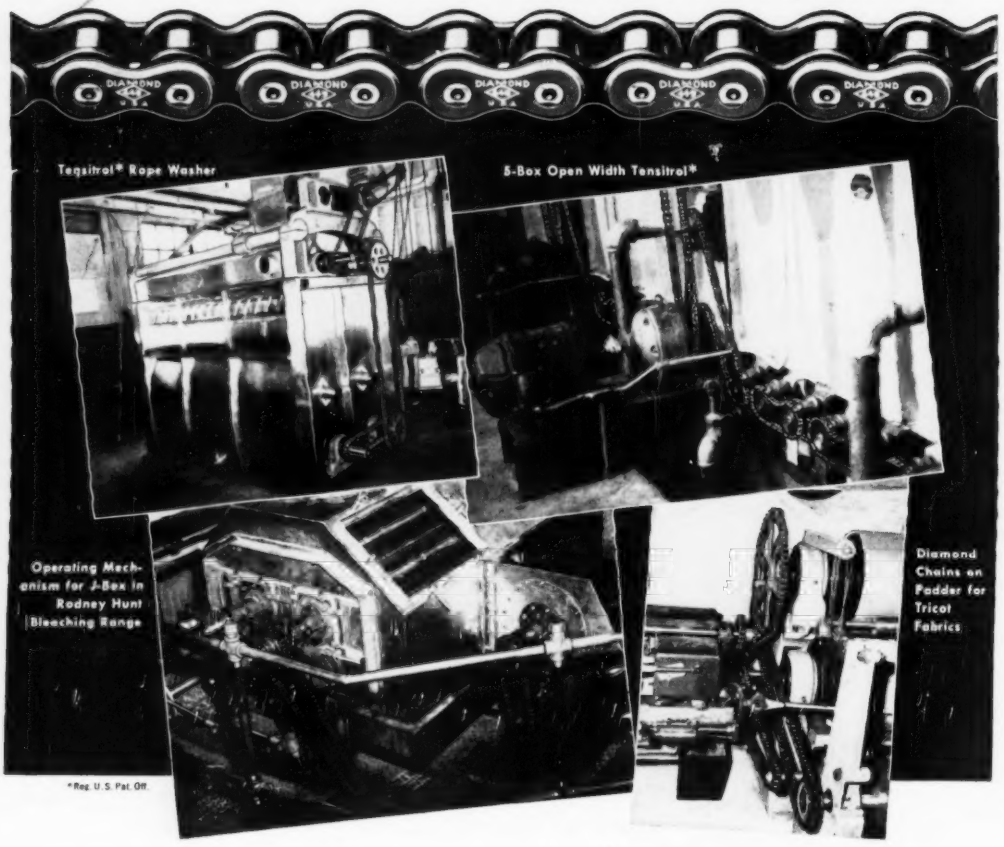


CRUCIBLE first name in special purpose steels

hot and cold rolled **STAINLESS SHEET AND STRIP**

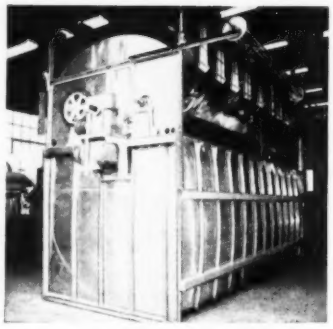
STAINLESS • HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE • STEELS

DIAMOND Roller Chains Widely Used On Rodney Hunt Continuous Bleaching Equipment


Tensitrol* Rope Washer
5-Box Open Width Tensitrol*
Operating Mechanism for 5-Box in Rodney Hunt Bleaching Range
Diamond Chains on Padder for Tricot Fabrics
*Reg. U. S. Pat. Off.

● The successful operation of high output, cost-cutting equipment such as illustrated, depends to a great extent on the dependability of the various drives. For such service—throughout industry, Diamond Roller Chains have proven economical, efficient, and well capable of providing long-life, trouble-free performance. Properly encased, all danger of product damage through lubrication throw-off or "spatter" is avoided.

As a guide to selection of Roller Chains, our New Catalog 649 should be in your files. A copy will be mailed on request. DIAMOND CHAIN COMPANY, Inc., Dept. 483, 402 Kentucky Avenue, Indianapolis 7, Indiana. *Offices and Distributors in All Principal Cities.*



Largest Dyeing Machine Built (Rodney Hunt)

DIAMOND ROLLER CHAINS

Have your boat overhauled regularly

To keep your boat seaworthy and trim, follow a regular maintenance program.

Have your Full-Fashioned Knitting Machines checked—regularly—to keep them at highest efficiency . . . Follow a regular program for reneedling and your needle bars are always in shape for better knitting . . . Follow a regular program for reconditioning and your plant is always at peak performance. We will be glad to discuss this matter of regularity as it applies to your mill operation.

TEXTILE MACHINE WORKS • READING, PA.

The "READING"
Full-Fashioned Knitting Machine

Where Strength is Required

Strength is an important requirement in needles. Textile Spring-Beard Needles are strong at the butt . . . strong at the beard . . . strong at the shank . . . strong at every crucial point. This strength is a result of a special steel formula, superior tempering and scientific controls—automatic and electronic—major steps in the production of Textile Spring-Beard Needles.

Strength is one of the many advantages resulting from Textile's quality controls. Order Textile Spring-Beard Needles for your needle bars and you'll be on the way to finer quality knitting.

TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

For Full Fashioned and Warp Knitting

STANDAFINS

for finishing

- A full range of body, hand and drape for all fabrics.
- Resistant to laundering and dry cleaning.
- Easy to apply on conventional equipment, no curing required.
- Compatible in bath with other finishing materials.
- Impart slip proofing and snag resistance to woven and knitted goods.
- Binders for pigments and fillers.

STANDAFIN 77
Soft, full hand

STANDAFIN 79
Intermediate firmness

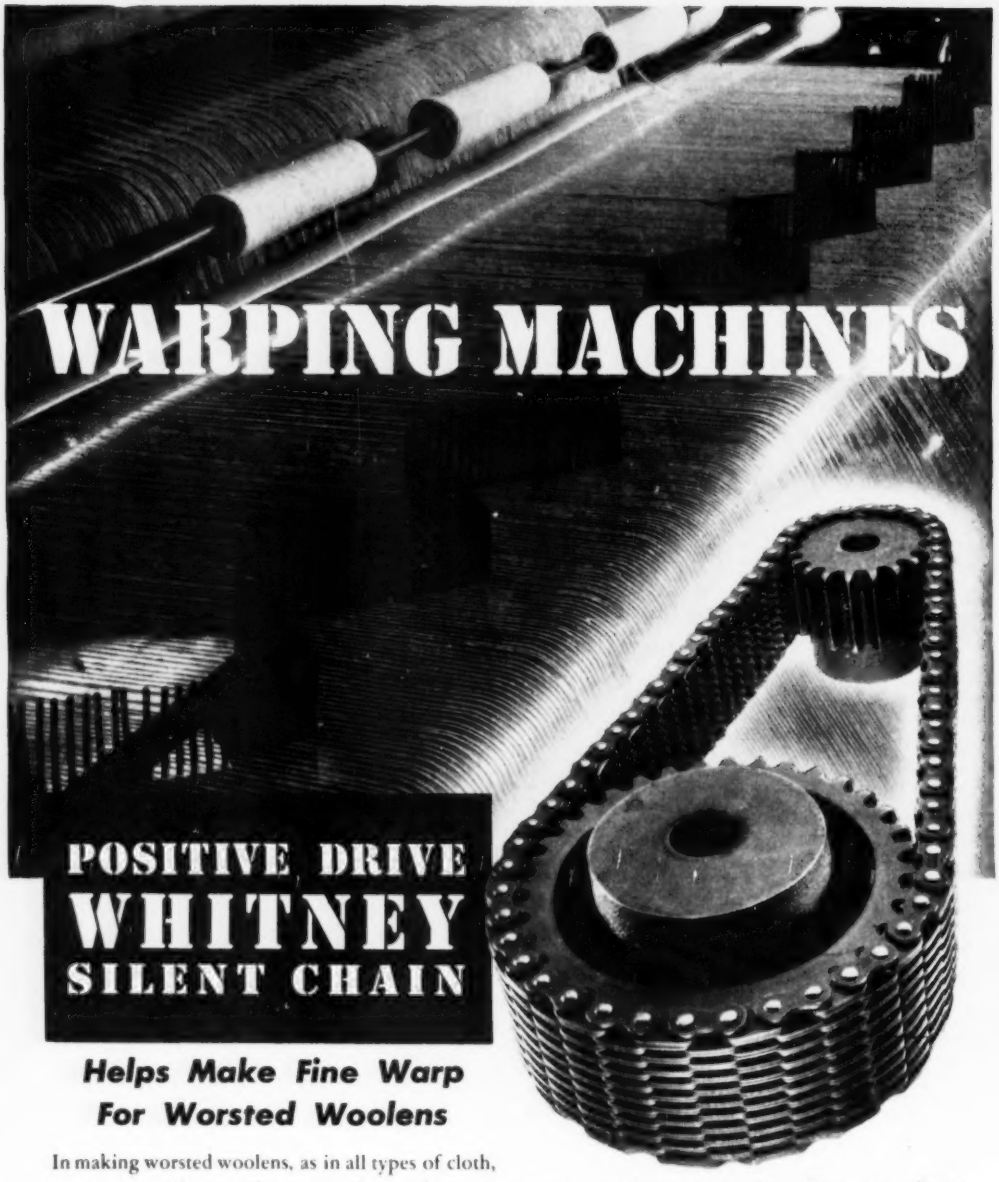
STANDAFIN R10
Firm, full hand

STANDAFIN 1220
Stiff finish

We welcome your inquiries on these and other Standafins.
Write or call today.

STANDARD CHEMICAL PRODUCTS, INC.
13th and JEFFERSON STREETS, HOBOKEN, NEW JERSEY

Chattanooga, Tenn. • Paterson, N. J. • Providence, R. I. • Sunbury, Pa.
Sacramento, Cal. • Greensboro, N. C. • Leaksville, N. C.



POSITIVE DRIVE WHITNEY SILENT CHAIN

Helps Make Fine Warp For Worsted Woolens

In making worsted woolens, as in all types of cloth, constant machine speed is a must for product uniformity. Whitney Silent Chain Drives help you get and maintain high quality by transmitting smooth, never-varying power from driver to driven elements. Firmly seated in sprockets, these chains deliver full power without slippage. Their positive grip means that your machines will run at full rated speeds, thus assuring maximum production. They are easily installed or dismantled . . . give years of quiet operating life with minimum time out for maintenance. If you are a manufacturer or user of textile machinery, it will pay you to investigate Whitney Chains and Cut Tooth Sprockets . . . the *all Steel Drives*. Write for complete information today.

Whitney Chain & Mfg. Co.
DIVISION OF WHITNEY-HANSON INDUSTRIES, INC.
211 Hamilton Street, Hartford 2, Conn.

*EXTREME PRESSURE

All production machinery will last longer — give better service — if the proper lubricant is used. That's why you will find it profitable to use high quality Tycol oils and greases in your plant.

There's a reason! No matter what your lubricating need — *EXTREME PRESSURE, high or low temperature, high speed or any other service condition — there's a Tycol oil or grease suited to your specific requirements.

Refined from the highest grade crudes, Tycol lubricants are exceptionally resistant to breakdown which means greater economy . . . longer machine life for every type of equipment.

Tide Water Associated will gladly recommend the Tycol lubricant that meets your particular requirements. Call, write or wire your nearest Tide Water Associated office today.

TYCOL

INDUSTRIAL LUBRICANTS

Boston • Charlotte, N. C. • Pittsburgh • Philadelphia • Chicago Detroit • Tulsa • Cleveland San Francisco • Toronto, Canada

TIDE WATER ASSOCIATED OIL COMPANY

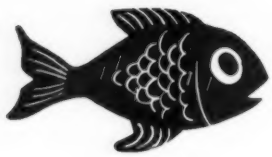
17 BATTERY PLACE - NEW YORK 4, N.Y.

*LEARN WHAT THIS PRODUCT CHARACTERISTIC MEANS TO YOU — READ "LUBRICANIA"

This informative handbook, "Tide Water Associated Lubricania," gives clear, concise descriptions of the basic tests used to determine important properties of oils and greases. For your free copy, write to Tide Water Associated Oil Company, 17 Battery Place, New York 4, N. Y.

REFINERS AND MARKETERS OF VEEDOL — THE WORLD'S MOST FAMOUS MOTOR OIL

See any profit through "fish eyes"?



Nor if you're knitting nylon hosiery. This peculiar type of spoilage is becoming an increasing source of headaches in scores of mills. The time and labor it takes to repair the damage eat into profits.

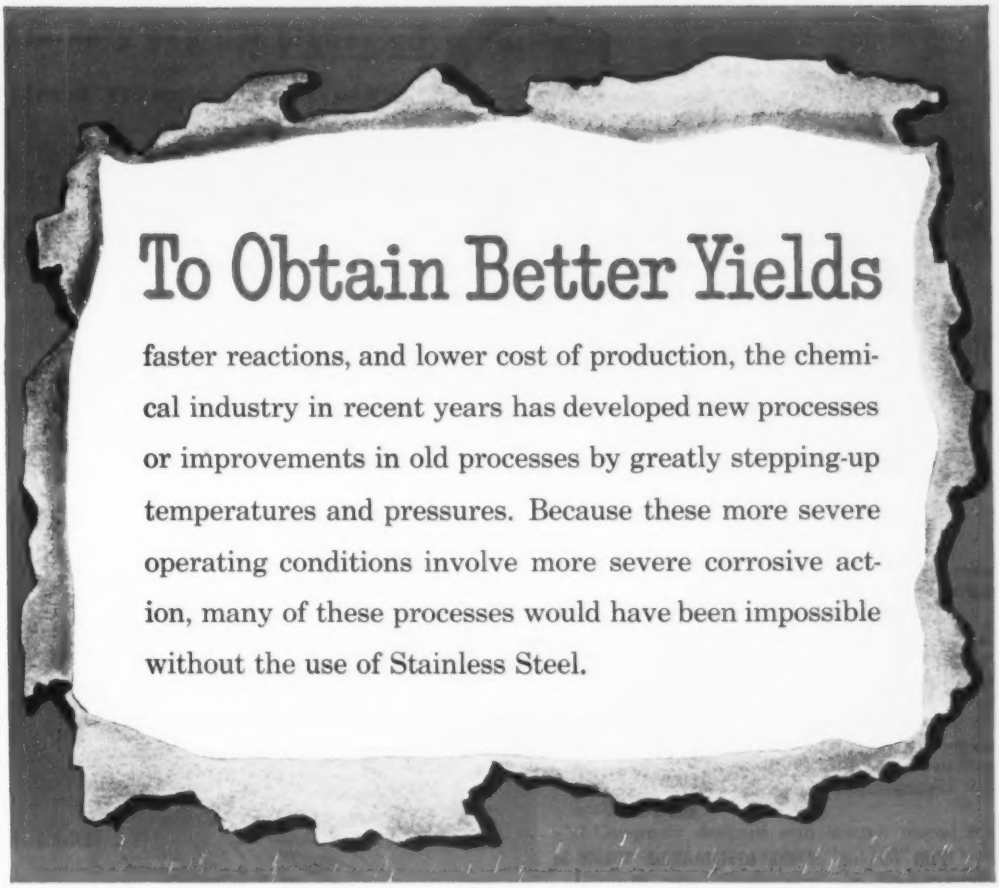
Alert mills have found a way to lessen "fish eyes" with Carrier Air Conditioning. The chief cause lies in an excess of sizing, caused by improper humidity and temperature in the sizing room. But the good qualities of good sizing must be maintained by air conditioning the knitting room.

Throwsters have discovered, too, that air conditioning the sizing room is not enough. The yarn to be sized must come from an air-conditioned twisting room, and ideal temperature and humidity must be maintained while the yarn is being coned.

Reduction of "fish eyes" is only one of many ways in which air conditioning boosts production and quality in the textile industry. In mill after mill—even in the dye house—it has improved the quality of goods and the efficiency of employees.

Design of textile-mill air conditioning takes sound experience and thorough knowledge of the industry's problems. Carrier engineers for years have worked closely with every phase of the textile field. This intimate knowledge is your assurance of better air conditioning. Carrier Corporation, Syracuse, N.Y.

Carrier AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING



To Obtain Better Yields

faster reactions, and lower cost of production, the chemical industry in recent years has developed new processes or improvements in old processes by greatly stepping-up temperatures and pressures. Because these more severe operating conditions involve more severe corrosive action, many of these processes would have been impossible without the use of Stainless Steel.

THAT is why today the amount of Stainless Steel going into chemical plants is many, many times greater than it was ten years ago.

The superior ability of this group of corrosion-resisting and heat-resisting steels to meet a wide variety of corrosive conditions is being more and more widely recognized. In fact, when it comes to critical applications involving high temperature—where resistance to oxidation and retention of strength are imperative—Stainless Steel is in a class apart.

In U·S·S Stainless Steels we offer you a *complete* range of perfected, service-tested Chromium and Chromium Nickel Steels in a wide variety of forms, sizes and finishes. When you plan to use them, ask for the cooperation of our engineers who are specialists in Stainless and will gladly give you the benefit of their experience to help you obtain optimum results at minimum cost.

AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES: CLEVELAND, OHIO · CARNEGIE-ILLINOIS STEEL CORPORATION, PITTSBURGH & CHICAGO
COLUMBIA STEEL COMPANY, SAN FRANCISCO · NATIONAL TUBE COMPANY, PITTSBURGH · TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

9-743

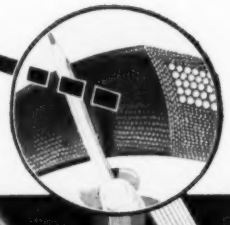
UNITED STATES STEEL

This Simple Test
Shows Exactly How

The CONCAVE SIDE...

(U.S. Patent No. 1813698)

Saves You Money!



Pick up *any* V-belt having the ordinary straight sides and *bend* the belt. Three things will happen, right before your eyes.

(1) The top of the belt is under tension and grows *narrower*. (2) The body, under compression, becomes wider. (3) The sides of the belt *bulge out*. (Figures 1 and 1-A, below.)

Straight-Sided V-Belt

How Straight-Sided V-Belt Bulges in Sheave-Groove

This bulging of the straight-sided V-belt in its sheave-groove costs you money in *two* ways—(1) The bulge causes uneven sidewall wear—*shorter life!* (2) The bulging side cannot evenly grip the wall of the sheave groove—a loss in *transmission efficiency!*

In figures 2 and 2-A, you see how the precisely engineered *concave* side of the Gates Vulco Rope exactly corrects this bulging.

Gates Vulco Rope with Concave Side.

No Side Bulge. Precise Fit in Sheave-Groove.

Two distinct *savings* result. (1) The Gates Vulco Rope wears evenly—*longer life!* (2) The entire side-wall grips the pulley—carries heavier loads and *sudden load increases* without slippage:—saves *belts* and also *saves power!*

The Mark of SPECIALIZED Research

The Concave Side is *MORE IMPORTANT NOW* Than Ever Before

Because the sides of a V-Belt are what actually drive the pulley, it is clear that any increased load on the belt means a heavier load that must be transmitted to the pulley directly through the belt's sidewalls.

Now that Gates *SPECIALIZED* Research has made available to you SUPER Vulco Ropes—carrying fully 40% higher horsepower ratings—the life-prolonging Concave Side is naturally more important in conserving belt life today than ever before.

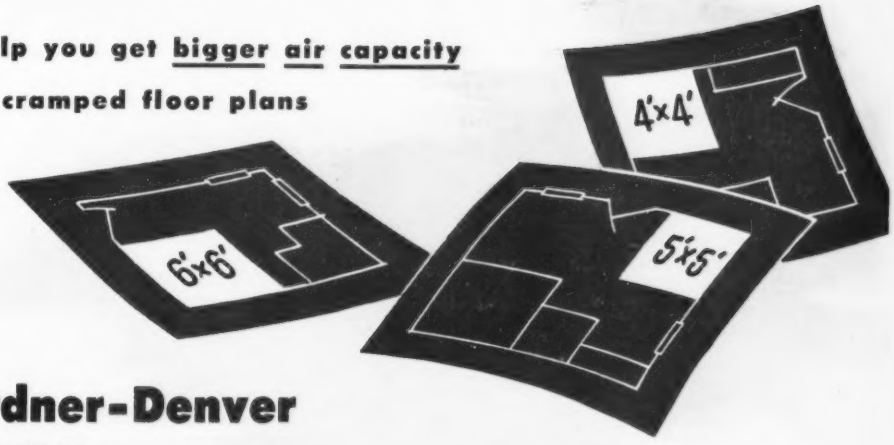
498

GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks IN ALL INDUSTRIAL CENTERS of the U. S. and 31 Foreign Countries

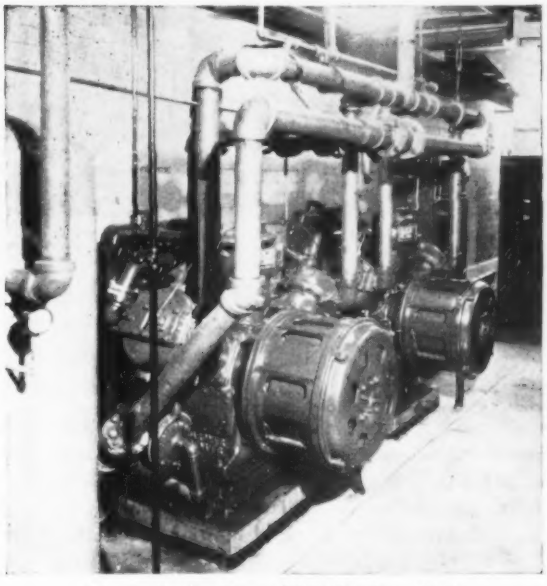
THE GATES RUBBER COMPANY
DENVER, U.S.A.
The World's Largest Makers of V-Belts

To help you get bigger air capacity from cramped floor plans



Gardner-Denver "WB" Compressors

are made in 7 sizes!



Compact Gardner-Denver "WB" Two-Stage, Vertical Water-Cooled Compressors, with built-in motors.

Here's how you can have *greater air capacity* — even though floor plans are crowded! Install a Gardner-Denver "WB" — the vertical, two-stage compressor that's built in seven space-saving capacities from 142 to 686 cubic feet displacement per minute. The smallest size fits into a four-foot square — the largest requires only about six feet each way.

Compactly designed with integral motor and self-contained cooling system, the "WB" rates high in efficiency. Completely water-jacketed cylinders and heads, plus balanced construction — two low pressure cylinders for each high pressure cylinder — assure low power costs and an air supply you can always count on.

Other big "WB" advantages:

- ★ Duo-Plate "air-cushioned" valves — quiet, simple and durable.
- ★ Timken tapered roller main bearings.
- ★ Force-feed lubrication system.
- ★ Furnished with built-in motor — or with sheave for "V"-belt drive.

For complete information, write Gardner-Denver Company, Quincy, Illinois.

GARDNER-DENVER SINCE 1859

Atlanta, Ga.; Birmingham, Ala.; Boston, Mass.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.

THOROBRED LOOP PICKERS

INSURE PERFECT SHUTTLE THROWS

Created to perform better . . . last longer . . . thru Dayco Textile Know-How

Built to stand the continuous shuttle pounding of high-speed looms, Dayton Thorobred Loop Pickers have a special design that always assures correct shuttle contact. The stick hole tilts forward. The shuttle strikes this picker horizontally. Crooked shuttle throws are eliminated. Looms can be boxed the same at all times. There's no shuttle bounce or picker burning.

Molded in one piece of special fabric and resilient synthetic rubber, Thorobred Loop Pickers have no rivets or rough edges. They fit both left and right sticks. They keep their shape. Are easy to install. Stay put on the stick. Thorobred Loop Pickers cost considerably less than other types, have exceptionally long life. For pickers that last longer . . . save time and money, write: The Dayton Rubber Company, Textile Division, Woodside Building, Greenville, South Carolina.

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

EFFICIENCY OF WORKERS with proper vision averages 22% higher than efficiency of other workers at Fulton Bag & Cotton Mills, says the author, left, shown giving an Ortho-Rater test to Mrs. Bonnie Mae Terry.

Fulton Study Relates VISION and EFFICIENCY

HIGHLIGHTS: *Visually equipped workers average 22% higher efficiency than workers with substandard vision—Employee interviews reveal favorable attitude—Relation shown between vision and earnings, accidents, attendance, and job performance.*

By E. W. HOWARD

Assistant Personnel Manager, Fulton Bag & Cotton Mills

A RECENT STUDY by Fulton Bag & Cotton Mills, Atlanta, Ga., indicates a definite relationship between visual ability and job performance, earnings, accidents, and attendance. The study, which covered all departments of Fulton's two plants in Atlanta, also turned up interesting information on how best to carry out an effective vision program.

Data compiled on the relation of visual ability and job performance are given in the charts on the next page.

The visual-performance testing instrument used by Fulton is the Ortho-Rater, manufactured by the Bausch & Lomb Optical Co. The industrial vision program included five steps:

1. One or more employees from the subscribing company are trained by Bausch & Lomb to administer the service.

2. Present employees and job applicants are tested with the Ortho-Rater to determine their visual patterns.

3. Test results are sent to the Occupational Research Center at Purdue University, which draws upon an extensive file of vision test data and job descriptions in establishing vision profiles for the jobs in the subscriber's plant.

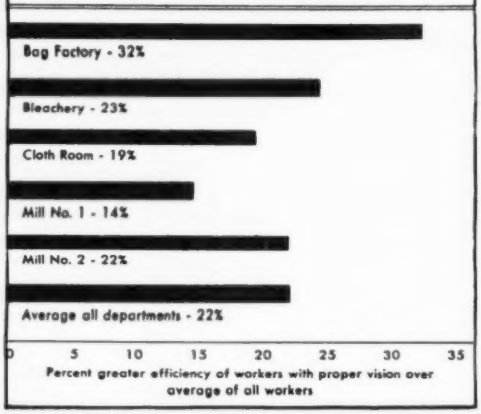
4. Job-standard templates are prepared for the subscriber. By comparing employee test scores with job-standard profiles, individualized to fit the subscriber's needs, a trained layman can determine at a glance whether present or prospective employees meet the factually determined standard of seeing performance for their job.

5. Finally, the dollars-and-cents value of the industrial vision service is made clear. It shows specific benefits in terms of the objectives that management wants to achieve.

A total of 2,570 persons have been tested, 450 of which were applicants for employment. As a result of these tests, almost 1,000 employees have been found to possess low visual skills, and more than 100 applicants have been rejected for this same reason. Approximately 600 employees have been referred to local doctors for eye examinations and correction. The remaining 400 workers whose visual ability

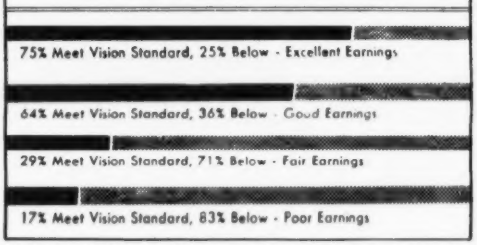
Fulton Study Shows Six Factors Related to Visual Ability

1. EFFICIENCY: Visually-Equipped Workers Average 22% More Efficient


Bag Factory - 32%
Bleachery - 23%
Cloth Room - 19%
Mill No. 1 - 14%
Mill No. 2 - 22%
Average all departments - 22%
0 5 10 15 20 25 30 35
Percent greater efficiency of workers with proper vision over average of all workers

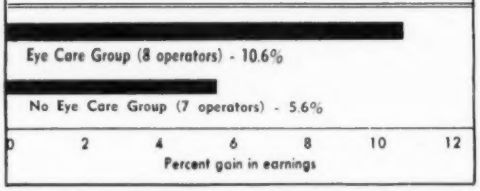
WORKERS visually equipped to do their jobs perform on an average 22% more efficiently than workers taken as a whole. Criteria used were average hourly piece-rate earnings, where available, or merit ratings.

2. EARNINGS: 85% of Sewing-Machine Operators With Best Vision Had Best Earnings


75% Meet Vision Standard, 25% Below - Excellent Earnings
64% Meet Vision Standard, 36% Below - Good Earnings
29% Meet Vision Standard, 71% Below - Fair Earnings
17% Meet Vision Standard, 83% Below - Poor Earnings

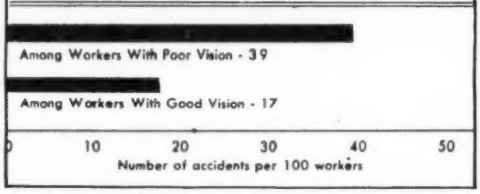
AVERAGE HOURLY EARNINGS were highest among sewing-machine operators who met or exceeded visual standard.

3. GAIN IN EARNINGS: Sewing-Machine Operators Receiving Eye Care Had Greater Earnings Increase



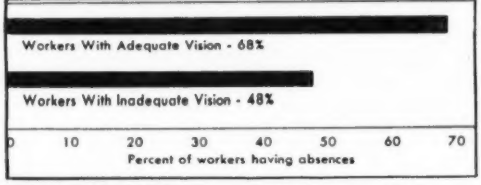
PERCENT GAIN IN EARNINGS over 10-month period of group which received eye care was almost double the gain of group which met standards and which received no eye care.

4. ACCIDENTS: Poor-Vision Workers Had Twice as Many Accidents



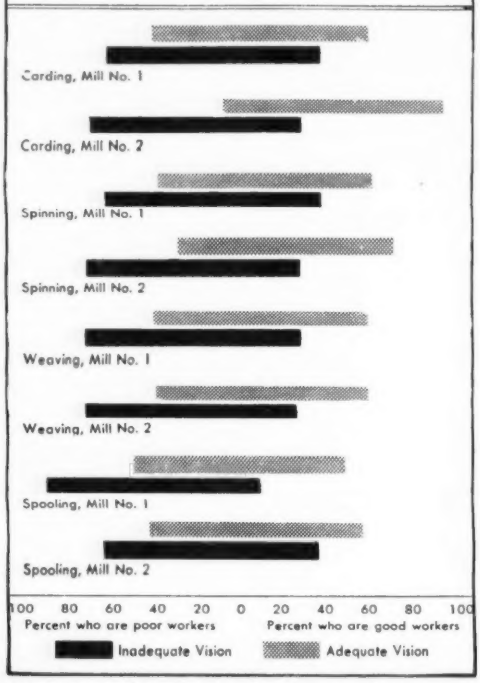
MORE THAN TWICE the number of accidents in a year in Fulton's cotton mill No. 2 occurred among workers with poor vision.

5. ATTENDANCE: Good-Vision Workers Had 20% Better Record


Workers With Adequate Vision - 68%
Workers With Inadequate Vision - 48%
0 10 20 30 40 50 60 70
Percent of workers having absences

ATTENDANCE RECORDS in Fulton's bleachery showed that among those persons having adequate vision, 48% were absent one or more times. Among those who did not possess adequate vision, 68% were absent one or more times—a difference of 20% in the attendance record in favor of the good vision group.

6. JOB PERFORMANCE: Best Rated Workers Had Adequate Vision


Carding, Mill No. 1
Carding, Mill No. 2
Spinning, Mill No. 1
Spinning, Mill No. 2
Weaving, Mill No. 1
Weaving, Mill No. 2
Spooling, Mill No. 1
Spooling, Mill No. 2
100 80 60 40 20 0 20 40 60 80 100
Percent who are poor workers
Percent who are good workers
Inadequate Vision
Adequate Vision

MAJORITY OF WORKERS with merit ratings of good showed up in tests as having adequate vision; poor-rated workers had inadequate vision.

Worker Attitude Toward Vision Program Is Favorable

LOOM CLEANER G. S. Ray: "I can see better now than ever, and I can read fine print."

DOFFER Tom Cole, "I can see 100% better, and it seems like I don't get tired now."

SPINNER Ruth Anglin, "It's a good thing. I'm glad to have my eyes tested."

SPINNER Lula Kinney, "My eyes stayed red and burned a lot before I got glasses. Now they don't burn and I can see a lot better."

FRAME TENDER Lucile Coleman: "I had headaches before I got my glasses. Now I don't have them anymore."

FRAME TENDER W. O. Holtzclaw: "I'm glad you made me get new glasses. I can see a lot better now."

was low, with the exception of a comparative few, have either left the company or were such borderline cases that on retest they were found suitable. Standards for visual skills were set up by Fulton based on performance, earnings, etc., of the better workers.

Of the visual handicaps found by the Ortho-Rater tests, poor acuity or keenness of sight appeared most frequently. Second in frequency was muscular imbalance, or eyestrain. This handicap was also second only to acuity in its relationship to accidents. The third handicap in frequency is the absence of binocular sight of one eye or the other. This handicap does not indicate blindness, but rather that one eye is dominant and the other recessive so that the eyes will not team up and work together. In such cases, if the dominant eye is closed forcing the weaker to work, it quite often performs as well as the strong eye. Between 7 and 8% of the workers had this handicap. In 95% of the cases all handicaps can be corrected.

FOLLOW-UP. For a vision program to be entirely successful, follow-up must be continuous. In some cases, after a worker has been examined by a doctor and told that he should wear glasses all the time, he wears those glasses in his pocket, on the mantle piece at home, or in some other place where they are of no value to him. This neglect is particularly evident in persons getting glasses for the first time.

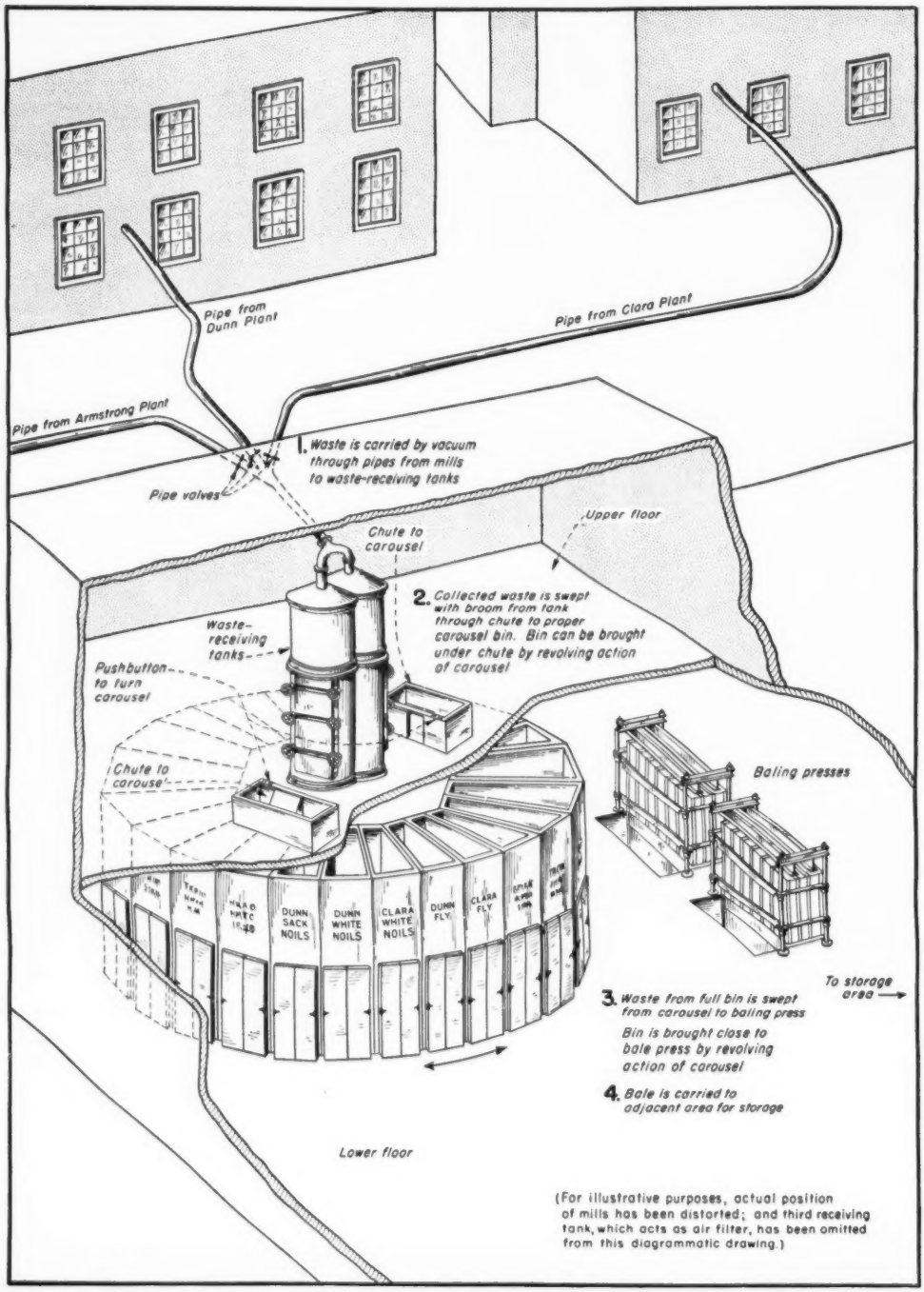
Working conditions are sometimes bothersome to the glasses wearer. In areas where the air is heavy with dust or has a high humidity, glasses quickly become coated with dust or fogged. In areas or seasons of high temper-

(Continued on page 226)

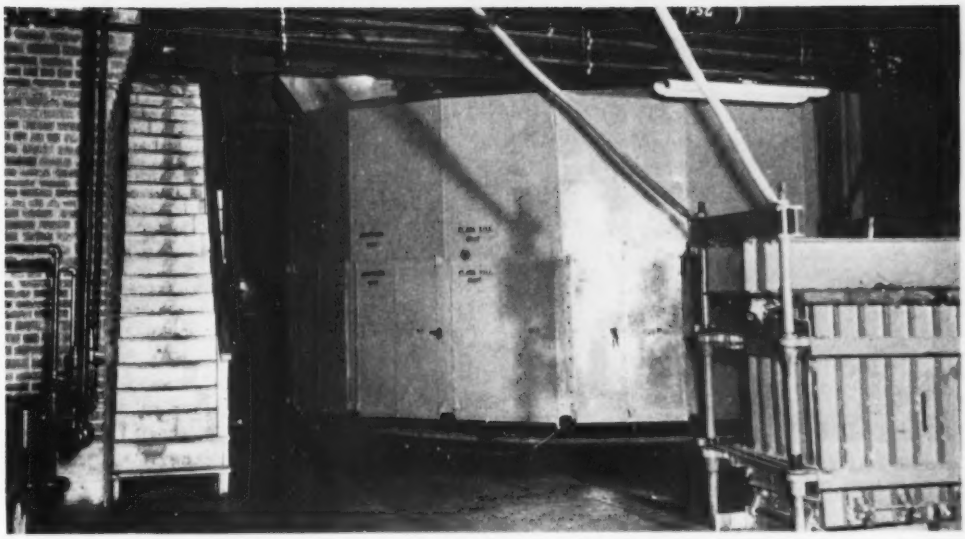
Ratings of Workers on Individual Jobs in Bleachery

JOB TITLE	GOOD PERFORMERS		POOR PERFORMERS	
	% with adequate vision	% with inadequate vision	% with adequate vision	% with inadequate vision
Cloth examiners	65	35	31	69
Calender operators	80	20	0	100
Other jobs - White	58	42	48	52
Dry-can operators	88	12	22	78
Kier Balers	66	34	49	51
Other jobs - Colored	63	37	30	70

WASTE ON A MERRY-GO-ROUND—


Pipe from Dunn Plant
Pipe from Clara Plant
Pipe from Armstrong Plant
1. Waste is carried by vacuum through pipes from mills to waste-receiving tanks
Pipe valves
Upper floor
Chute to carousel
2. Collected waste is swept with broom from tank through chute to proper carousel bin. Bin can be brought under chute by revolving action of carousel
Waste-receiving tanks
Pushbutton to turn carousel
Chute to carousel
Baling presses
DUNN SACK NOILS
DUNN WHITE NOILS
CLARA WHITE NOILS
DUNN FLY
CLARA FLY
To storage area
3. Waste from full bin is swept from carousel to baling press
Bin is brought close to bale press by revolving action of carousel
4. Bale is carried to adjacent area for storage
Lower floor
(For illustrative purposes, actual position of mills has been distorted; and third receiving tank, which acts as air filter, has been omitted from this diagrammatic drawing.)

HANDLING OF WASTE through the carousel from mill to storage is shown in this diagrammatic drawing. At prescheduled hours, various types of waste are drawn by vacuum from mill to collecting tanks. Waste is then stored in proper section of the carousel until it is baled.



REVOLVING WASTE CAROUSEL has 24 bins for different types of waste.

Unique CAROUSEL Cuts Waste-Handling Cost

HIGHLIGHTS: *Gastonia Combed Yarn Corp. waste carousel permits "merry-go-round" pickup of 10 tons of stored waste—Vacuum moves waste to carousel on 24-hr. schedule—New waste system saves cost of several operators, cuts storage, promotes control.*

By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

A UNIQUE "MERRY-GO-ROUND" SYSTEM, called a waste carousel, has cut waste-handling cost to the bone at Gastonia Combed Yarn Corp., Gastonia, N. C.

The waste carousel is about 30 ft. in diameter, 10 ft. high, and revolves on a central axis. Different varieties of waste can be stored in 24 separate bins in the carousel. Each bin holds at least enough waste to make one bale of about 500 lb. Storage capacity of the carousel is about 10 tons; floor space occupied is about 700 sq. ft.

The carousel is located in a waste house located centrally between the Dunn, Clara, and Armstrong mills of the Gastonia group. Waste is piped by vacuum between the mills and the waste house.

A three-mill master schedule timed by clocks synchronized by Western Union calls for the removal of strips, fly, motes, and dust-house wastes at specific times. Each type of waste is received at the waste house in one of two tanks. When the waste delivery is complete, a bin of the carousel designated to hold that type of waste is brought beneath the tank. "Merry-go-round" action of the carousel is push-button controlled. Waste is then swept from the tanks into the bin for storage. When bins are filled, the carousel is turned until doors in the side are near a baling press. Waste is removed through the side door, baled, and stored in the waste house storage area.

Savings from the over-all system which includes the Abington vacuum waste-removal system have amounted to many thousand dollars. The central waste house replaces three separate houses at the company's Dunn, Armstrong, and Clara plants. Waste reduction and control was simplified; cleaner and better-kept mills result; and floor space required for a 105-bale-a-week waste operation is reduced by nearly 2,000 sq. ft. In this respect alone, installation savings of the carousel are estimated to be $4,000 to $6,000.

In addition, dust and dirt in the air is held to a minimum; traffic of waste trucks through mill departments is eliminated, and segregation of waste is facilitated. Waste is piled vertically, saving much floor space normally required. Waste quality is also kept up. The rapid rate of converting waste to bales also speeds waste accounting.

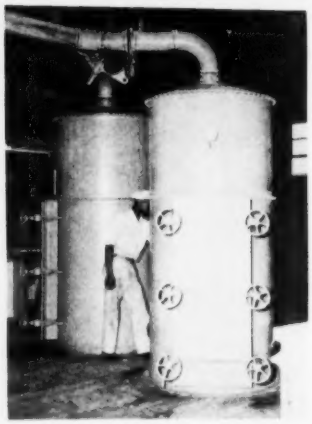
The carousel and waste house were designed by Werner Textile Consultants and P. O. M. Co. Industrial Consultants, New York, N. Y. The company has a patent pending (No. 91,442) on the carousel which was invented by their Mr. W. B. McGuire. The device was built and installed by Precision Gear and Machine Co., Charlotte, N. C. The vacuum system is by Abington Textile Machinery Works, Boston, Mass.; and the up-packing, single-box baling press was installed by J. T. Beatty Machine Co., Charlotte, N. C.

For Operating Details Turn the page

HOW ONE TYPE OF WASTE IS HANDLED BY THE CAROUSEL SYSTEM—

1 *DUNN MILL FLY WASTE is drawn by vacuum system from beneath card at pre-scheduled hour.*

2 *AIR-PIPE VALVES in new waste house are adjusted according to clock in background to insure proper flow from mill.*



3 *RECEIVING TANK is opened by Willie B. Ervin for Dunn Mill fly waste. Third filter tank is not shown.*

7 *BUTTON CONTROL on first floor is pushed by operator to swing Dunn Fly bin to unloading point.*

8 *ACCESS DOOR to carousel bin is opened by operator. Cotton falls out with little assistance.*

9 *FLY WASTE, is removed from carousel and swept across open floor space to baling press.*

HOW SYSTEM WORKS. With the waste carousel, Gastonia Combed Yarn Corp. has reduced to an absolute minimum the labor required for emptying the Abington waste receivers, and for handling, storing, and baling non-reworkable waste.

Waste is piped by vacuum from each of the three mills to the waste house in accordance with a definite schedule. A portion of a typical schedule follows:

2ND SHIFT STRIPPING SCHEDULE
CLARA, DUNN & ARMSTRONG MILLS

TIME	OPERATION
1:50 P.M.	Strips, Dunn Mill
2:25 P.M.	Strips, Armstrong Mill
2:50 P.M.	Strips, Clara Mill
3:15 P.M.	Fly, Dunn Mill
3:50 P.M.	Fly, Armstrong Mill
4:15 P.M.	Fly, Clara Mill
4:40 P.M.	Comber Noils, Dunn Mill
5:15 P.M.	Comber Noils, Armstrong Mill

Prior to the time of actual transfer of waste from mill to waste house, valves in the air ducts are adjusted to insure proper flow to the empty collection tank.

Sweepings and thread wastes are handtrucked to the waste house. The mill rule that all waste not delivered on schedule to the waste house by vacuum must be removed by hand results in strict compliance with the master schedule, since the present system eliminates difficult hand labor.

Two men operate the waste house on the first shift when most of the baling is done. One man does the work on the second shift. Waste is received into one of the two receiving tanks which rest upon a balcony over the waste carousel. One tank is always available while the other is being emptied. A third tank is used strictly as a filter for dust-laden air which has passed through the receiving tanks.

Within easy reach of the tanks, two chutes are cut through the floor so that they discharge directly into the carousel. The operator presses a push-button motor control to turn the desired waste bin under the chute. He then empties the tank into the chute which, in turn, drops the waste into the proper bin on the carousel.

The waste is accumulated continually in its proper bin until the latter

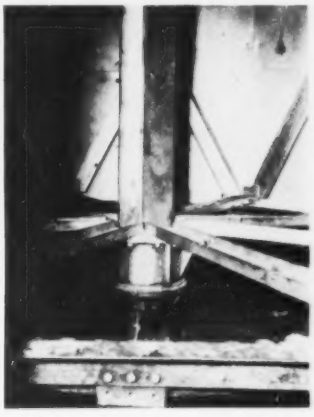
4 *BUTTON CONTROL is pushed by Roger Hardin to swing bin marked "Dunn Fly" beneath chute.*

5 *WASTE REMOVED from tank to chute is Dunn Mill fly waste. Carousel bin is directly underneath.*

6 *STEPS from balcony holding waste receivers take Roger Hardin to the carousel on the floor below.*

AMPLE STORAGE for about 350 single-tiered bales is available in Gastonia Combed Yarn Corp. new waste house.

BULL GEAR of 120-in. diameter is driven by pinion on speed-reduction box. Bull gear is bolted and welded to carousel turntable.



BOTTOM BEARING of carousel was job-assembled around 8x8 in. "H"-shaped building column.

is full. The carousel is then turned again by a push-button motor control so that the bin stops opposite one of the baling presses on the first floor. The side access door to the bin is opened, and the waste pours out with but little help from the operator onto the floor near the press.

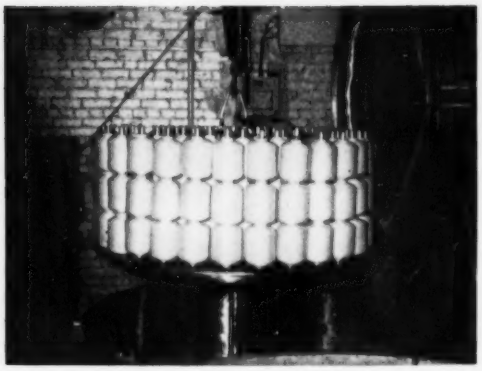
The waste is then baled, weighed by a convenient platform scale, and stored in the waste house. About 52,000 lb. of waste are handled weekly. The storage area of the house holds about 350 single-tiered bales. This ample storage space eliminates extra handling of bales to separate warehouses prior to shipment, as was formerly required. Railroad and truck sidings adjoin the waste house.

CONSTRUCTION. The waste carousel is essentially a structural-steel turntable carrying 24 sheet-metal bins which are welded to the structure. Its 30-ft. diameter rests on eight wheels 2¼ in. from the floor. The wheels turn on an 8-in. track made from ¼-in. steel plate in 32 sections that were lag-screwed to 6-in. concrete, the upper 2-in. surface of which is a grouting circle 11 in. wide and surfaced to carry the track.

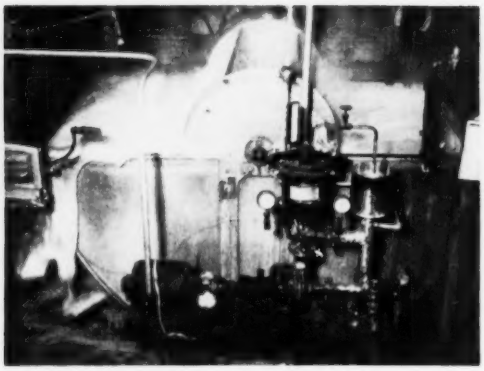
The carousel was mounted around an 8 x 8-in. building column with specially designed bearings. It was job-assembled and completely erected in 19 days. Cast bearings for the column would have weighed over 1,000 lb. Precision Gear and Machine Co. avoided this weight by rolling sheet iron into sections and welding them on the job.

The carousel requires a 5-hp. motor which belt-drives a gear-reduction box with a ratio of 165 to 1. On the output shaft of the box, a 19-tooth pinion gear with a 4-in. face transmits the drive to the turntable. An 120-in. internal, or bull gear is meshed with the pinion and webbed to the carousel. To cut a bull gear that would move the huge turntable would have cost $4,900. By casting in eight 45° segments, the engineers held the cost to $272. Both pinion and bull gears have 1 diametral pitch.

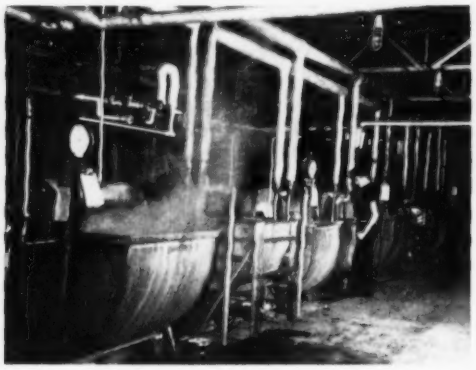
The sheet-metal bins are lettered according to the type and mill origin of the waste. Each bin is pie-shaped, 4 ft. wide at the arc, 7 ft. 6 in. deep, and 10 ft. high. A bin holds about 550 lb. of waste. All bins have completely open tops.



YARN FOR INGRAIN COLORS is vat dyed in the package in this 300-lb. Obermaier machine. Both natural and dyed yarn are waxed for better control during knitting.



BOIL-OFF during scouring removes emulsified knitting wax with the overflowing foam. Goods in process are held in net bags containing 4- to 5-lb. lots.



FIFTEEN DYEING MACHINES, ranging from 25-lb. to 200-lb. capacity, are used. They are mounted in a depression in the floor for better working height. Drains in the depression permit foaming over.

EXTRACTION takes place in one of five extractors ranging from 25-lb. to 200-lb. capacity. Flat-top truck hauls wet goods to extractor. Wooden-slat truck at right hauls goods to boarding room.

HALF-HOSE DYEHOUSE
Equipped for Versatile Operation

HIGHLIGHTS: *Hosiery dyeing capacity raised to 6,000 doz. pairs a day in two-story addition at Spalding Knitting Mills—Many shades possible with the 15 new machines.*

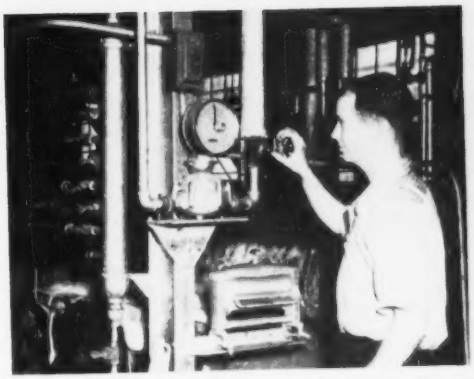
By E. DALTON WHITE
McGraw-Hill Atlanta Bureau

RETURN TO THE BUYER'S MARKET in the hosiery industry has brought about many changes in production and operating procedures to meet prevailing highly competitive conditions. New styles, colors, and constructions are being offered in increased numbers, all designed to offer greater eye and wearing appeal to buyers.

While this move serves to stimulate sales, it has tended to increase the number of production units necessary to process the greater number of color variations.

Spalding Knitting Mills, Griffin, Ga., prepared for this change in market conditions when it constructed its new dyehouse, a two-story brick addition to the present mill. Dyeing capacity was more than doubled by the installation of new equipment, most of small size, so that a large number of styles and color variations could be processed at the same time.

(*Continued on page 190*)



***BRINE METER** shows amount of brine pumped to a machine. Operator, hand on valve, controls the amount. Eight valves and pipelines at the left permit brine to be sent to any one of eight machines.*

***DRAIN TROUGHS** are provided for hot water and for cold water and waste. Hot water flows to a pit to preheat cold water used in the dyehouse boiler. Cold water and waste go to a sewer.*

PROCESS SHEETS

PROCESS 2 — Mercerized hose

Color: Pink

1. Fill tub with hot water
   Add 2% soap
   1% silicate
   1% albone
   Heat to boil — Boil 20 min.
2. Drain
3. Fill hot
   Add 2% dyeing oil
   Add dissolved dye — Boil 20 min.
4. Add 5% glauber salt — Boil 20 min.
5. Sample
6. If O.K., drain.

PROCESS 3 — Mercerized hose

Colors: Beige, Dusty, Gray, Edison pink

1. Fill tub with warm water
   Add 2% dyeing oil
   2% soap
   Dissolve dye and add
   Heat to boil — Boil 20 min.
2. Add 5% glauber salt — Boil 20 min.
3. Sample
4. If O.K., drain.

PROCESS 8 — Mercerized hose

Color: Red (diazotized and developed)

1. Fill tub with hot water
   Add 2% soap
   2% dyeing oil
   dissolved dye
   Heat to boil — Boil 20 min.
2. Add 7 gal. brine — Boil 20 min.
3. Drain and fill cold
4. Drain and refill cold
   Add 3% sodium nitrate
   5% muriatic acid — Soak 15 min.
5. Drain and rinse cold
6. Drain and refill cold
   Add 1% caustic soda
   1% beta-naphthol (dissolved together)
   Run cold 15 min.
7. Drain and rinse cold
8. Drain and refill hot
   Add 1% soap — Wash at 140° 10 min.

PROCESS 5 — Mercerized hose

Colors: Brown, Navy, Skipper, Kilty

1. Fill tub with hot water
   Add 1% soap
   1% dyeing oil
   Dissolved dye
   Heat to boil — Boil 20 min.
2. Add 7 gal. to 100 lb. brine — Boil 20 min.
3. Sample
4. If O.K., drain
5. Fill cold
   Add 1% Chromofix (dissolved in hot water)
   Heat to 140° — Hold at 140° 10 min.
6. Drain.

PROCESS 2-A — Mercerized hose

Colors: Yellow (or Maize), Bluette

1. Fill tub with hot water
   Add 2% soap
   2% dyeing oil
   1% silicate
   1% albone — Boil 20 min.
2. Add dissolved dye — Boil 20 min.
3. Add 5% glauber salt
   (for Bluette)
   or 7 gal. brine (for Yellow) — Boil 20 min.
4. Sample
5. If O.K., drain.

SPINNING PRACTICES, given in written reports by Georgia mill men for the spring meeting of the Textile Operating Executives of Georgia, are presented here in condensed form for quick reading. These practices represent answers to ten questions on spinning, spooling, warping, and twisting. Thirty-five mills and mill groups, operating over one and a half million spindles and about 27,000 looms, sent in written reports prior to the meeting.

A similar report on carding practices was published in the June issue of TEXTILE WORLD.

H. M. JACKSON (right), assistant superintendent, Fulton Bag & Cotton Mills, Atlanta, led the discussion on spinning.

SPINNING PRACTICES
Given by Georgia Mill Men

***HIGHLIGHTS:** Spooler "wild yarn" starts at spinning frame—Revolving spinning clearers help keep waste out of yarn—Pulley drives for spindles increase front-roll speed 10 to 15%.*

SOME INSTALLATIONS of oilless spinning-roll saddles have given satisfactory service and some have not, according to mill experience cited by members of the Textile Operating Executives of Georgia. Generally, oilless saddles are more satisfactory than oilless cap bars.

These products may be described as saddles and cap bars made of material that is treated so that it does not require oiling or requires only occasional oiling. Nylon and other synthetic materials and also metallic materials are used.

One mill reported that it has nine frames equipped with oilless saddles. They have been running five months. So far, the saddles have not been oiled and no nicks have appeared in steel rolls. Less trouble with cockled yarn has been encountered.

Another mill has all its spinning frames equipped with metallic-type oilless saddles. Some of them have been running since 1941. One advantage has been that there have been no cut rolls due to saddle wear.

CLEARER WASTE. Revolving front-top clearers and flat back-top clearers are favored by a majority of mills as an arrangement for keeping clearer waste out of yarn. Twenty-three mills out of 35 use this arrangement. Of the other twelve, nine use only flat top clearers and three use only a revolving front-top clearer.

Only 16 of the 35 mills use bottom back clearers. Nine of these use flat clearers and seven use revolving clearers.

CLEANING FRAMES. Spinning frames are blown off in 29 of 32 mills. The three mills that do not blow off find that gouts in yarn are caused by that method of cleaning frames.

The blowing frequency in the 29 mills is: once every 2 hr. in 1 mill, once in 8 hr. in 3 mills, once a day in 13 mills, twice a week in 1 mill, and during the weekend in 11 mills.

Nine of the 18 mills that blow off during the week stop the frames being blown, and 11 do not. One mill did not specify its practice.

Thirty-five mills gave their practices on roll cleaning. Seventeen of them have spinners clean steel rolls, and 18 have special cleaners do the job. Sixteen mills use mechanical pickers, 16 use hand brushes, and 3 have rolls picked by hand.

BRUSH CLEANERS. Stationary brushes placed in a position to bear against the spooler drum are used by eleven mills to clean the drum.

Results reported by these mills were:

Mill B: "These brushes caused more gouts in our yarn. They cut down on the suction of our cleaning system, and the spoolers got lots dirtier."

Mill C: "Brushes reduced chokes 75%."

Mill F: "Laps were reduced about 75%."

Mill G: "We tried brushes to prevent laps, but now find that a thick felt pad fastened to center guard and contacting drum at an angle does a wonderful job. Much better than brushes."

Mill I: "We installed a brush made of flat iron covered with flannel. It

(*Continued on page 184*)

Snickplate Settings and Reties

Yarn No.	Up to 10s	10s to 15s	15s to 20s	20s to 30s
Average No.	7.35	12.83	17.70	26.10
Average snickplate setting (thousandths inch)	40.60	34.60	31.20	30.40
Average reties (%)	13.06	16.72	15.33	14.38

Bunches on Filling Quills

Question: How long should a bunch be?

Answers:

½ in. (reported by)	12 mills
⅛ to ¾ in.	8 mills
¾ in.	4 mills
¾ to 1 in.	1 mill

Question: How high on the quill should a bunch be?

Answers:

¼ in. (reported by)	3 mills
½ in.	5 mills
¾ in.	6 mills
1 in.	1 mill

Set feeler for any height 2 mills

Question: How do you determine the proper number of yards for a bunch?

Answers: By cloth width and filling number

(reported by)	6 mills
Cloth width plus 3 yd	1 mill
Twice the cloth width	3 mills
Three times cloth width	5 mills
Three times cloth width plus 1 yd	2 mills
Three times cloth width plus 1½ yd	1 mill
Four times cloth width	3 mills
Five times cloth width	3 mills

Twister Singlings and Doublings

(Answer by One Mill)

Prevention

1. Keep creels clean.
2. Keep cheese cores turning freely.
3. Use thread guides close to bottom cheese in creel and force end to pull to center of cheese.
4. Keep creels tight and in line.
5. Backwind cheese pieces periodically.
6. Keep cheese arms on spooler lined.
7. Keep cheese cores on spooler in good condition.
8. Make a firm, tight cheese on spooler.
9. Use smooth boxes to haul yarn.
10. See that spooler traveler does not cut or tangle yarn.

Handling (when singling or doubling occurs)

1. Break ends back.
2. Run singling or doubling off.
3. Tie up end and start it running.
4. Mark thread-guide cap with chalk.
5. When frame doffs, separate bobbins where marks were made.
6. Place these bobbins in a separate box.
7. When box is filled, respool yarn on an old-type spooler.

Spinning Cleaning Schedule (Mill Y)

1. Pick top rolls once each shift.
2. Pick separators once each shift.
3. Brush spindle and base rail four times each shift.
4. Pick top cleaners four times each shift.
5. Wipe out back sides twice each shift.
6. Clean scavenger rolls each doff.
7. Pick around and clean front-roll stands, roving rods, and roving stands once each shift.
8. Brush ring rails weekly (120 hr.).
9. Wipe roving, top and bottom, each 40 hr.
10. Clean back scavenger rolls weekly.
11. Clean weights weekly.
12. Wipe back of base rail each 40 hr.
13. Brush spindle collars each 40 hr.
14. All other parts on week-end clean-up.
15. Wipe top of roving once each shift.
16. Head ends brushed each 8 hr.
17. Frames blown off once each week.
18. Brush top clearers once each three months.
19. Clean steel rolls once each week with pneumatic roll cleaner.

Steps to Avoid Wild Yarn

(Barber-Colman Spoolers and Warpers)

Operation

1. Have spinning doffers tie down yarn tails.
2. If there are tails, have spooler tender break them off.
3. Use precision cam on spinning frame to build non-sloughing bobbin.
4. Break yarn as close to spooler thread clamp as possible.
5. Take piece bobbins out of pockets as soon as ends break.
6. If a lap occurs, clean wild yarn off that section of the spooler before the traveler makes another round.
7. Caution operators not to drop yarn tails on machine or yarn.
8. Watch warper comb for wild yarn.
9. Straighten up yarn on cheese starter.
10. Keep lint and strings cleaned out of bobbin pockets.
11. Clean wild yarn off full cheese when the cheese is creeled in the warper.

Cleaning

1. Stop machine during cleaning.
2. Keep machines clean.
3. Keep brushes clean.
4. Keep suction tubes clean.
5. Clean vacuum-tank waste bag often.
6. Keep warper creels clean.
7. Attach electric fan to traveler unit to blow wild yarn out of yarn pockets.
8. Install a card-stripper-fillet cleaner for each rotary brush to revolve through.
9. Empty yarn trough and clean it during each shift.
10. Keep air lines, waste cans, and roving boxes clean.
11. Keep detector wires on spoolers and drop wires on warpers clean.
12. Keep a good air pressure on the spooler at all times.

Maintenance

1. Keep yarn shears in good condition.
2. Set snickplates as close as practicable.
3. Keep snickplate brush in good condition.
4. Keep good blades in thread holders.
5. Check knotter settings at least once a week.
6. Keep thread clamps adjusted.
7. Check presser-lever spring each time the traveler is blown off.
8. Check cheese-arm plows each shift for worn or rough places.
9. Check for scarred or worn rollers.
10. Check for scarred or clogged slack tube.
11. Replace bad or worn brushes promptly.
12. Keep cheese cores in line and rolling freely.
13. Put rods behind racks on warper to keep yarn from jumping out of rack dents.
14. Install stop buttons in front of warper, so that tender can quickly stop warper.

RE-USABLE TRANSPARENT PACKAGE of Visqueen, polyethylene product of Visking Corp., Terre Haute, Ind., is used by Springfield Woolen Mills for its blankets. Consumer can use package for blanket storage. (P-1)

DUNDEE MILLS products were shown in gift boxes designed and produced by Container Corp. of America. (P-2)

More Textiles Packaged In TRANSPARENT MATERIAL

HIGHLIGHTS: *Continued trend to transparent packages for textiles apparent at Packaging Show—New types of wrapping shown—Textile mills increasingly package-conscious.*

By WILLIAM A. NEWELL
Managing Editor, TEXTILE WORLD

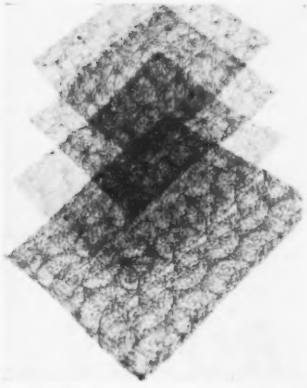
LAMINATED CELLOPHANE was used in two Fieldcrest Mills packages at top of picture. Hosiery boxes at bottom are white boxes covered with colored Shell-ply wrapping. Packages were designed and produced by Shellmar Products Corp., Mt. Vernon, Ohio. (P-3)

TEXTILE MILLS making products for sale to retail outlets have become much more packaging conscious. That was the primary reaction of exhibitors and textile-mill visitors to the National Packaging Exposition held recently in Atlantic City, N. J. Another apparent trend is increased use of transparent materials—both cellophane and other newer products, as polyethylene, Goodyear's Pliofilm, cellulose-acetate (film like Celanese's Lumarith). Rigid-box gift packaging also occupied a prominent spot among textile-packaging ideas exhibited.

Polyethylene film was shown by Du Pont in a less glamorous but no less practical use as a wrapper for shipping cones, as used by Sauquoit Silk Co., [See T. W., Apr., '49, p. 152]

TEXTILE WORLD, on these pages, shows most of the primary textile-mill products packaged for retail outlets that were exhibited at the show.

To request further information on any of these products, please use the card on page C of the Reader-Service Department; refer to the P-number at the end of the caption describing each item.



LACELON, a new type of fabric made from acetate and heat-bonded, was shown by Minnesota Mining & Mfg. Co., St. Paul 6, Minn. Material is available in 16 colors, widths from 4 to 36 in. (P-4)

CELLOPHANE PACKAGES designed, made, and printed by Dobeckmun Co., Cleveland, Ohio, were seen on damask table sets by Burlington Mills, hosiery by Phoenix Hosiery Co., and table cloths by Minette Mills, Inc., Grover, N. C. (P-5)

LABEL PRINTING machine shown by Markem Machine Co., Keene, N. H., prints fabric or paper in two colors. Machine will rewind, perforate, or cut and stock labels. Speed is 75 to 80 complete labels per minute. (P-6)

GIFT BOX for Pacific towels was shown by Container Corp. of America. It received special honorable mention in Folding Paper Box Association competition. (P-7)

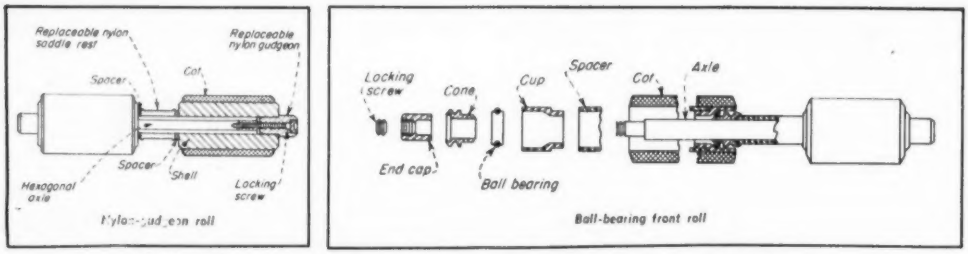
TRANSPARENT LUMARITH, cellulose-acetate material made by Celanese Corp., of America, Plastics Div., New York 16, N. Y., was shown in several forms of textile packages. (P-8)

PRINTED CELLOPHANE packages by Shellmar Products Corp. were used for Esmond Mills baby towels, E-Z Mills knitted briefs, "Spencer" undies by Mt. Airy Knitting Mills, and underwear by P. H. Hanes Knitting Co. (P-9)

CELLOPHANE-WRAPPED open boxes were displayed by Container Corp. of America, Chicago, Ill., for Cannon bath sets (two packages in background and one in foreground) and for Deering Milliken sheets and pillowcases (left center boxes). (P-10)

A NEW PACKAGE for Pepperell products was shown by Nashua Gummed and Coated Paper Co., Nashua, N. H. Transparent material is Pliofilm. Label is made of heat-seal paper and is heat sealed to Pliofilm. (P-11)

WINDOW BOX for a Calloway Mills towel set has Lumarith window, was made by Atlanta Paper Co., Atlanta, Ga. Box was a prizewinner in competition by Folding Paper Box Association. (P-12)

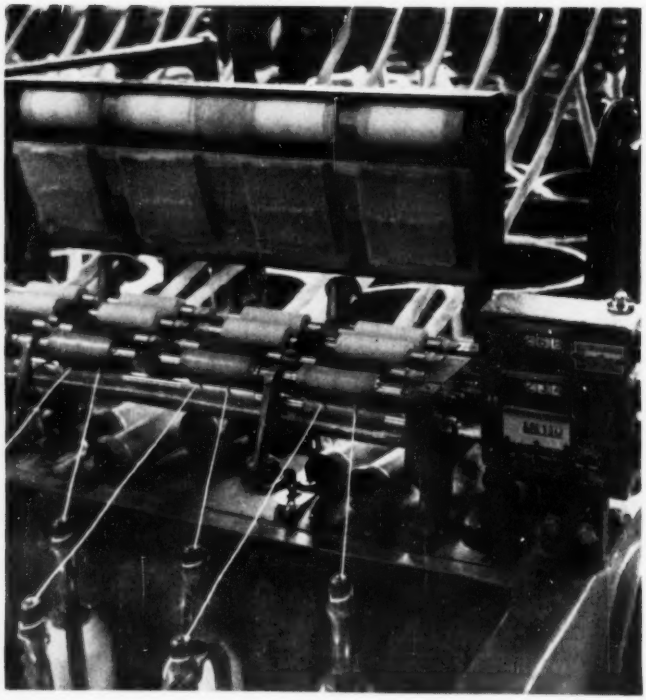


ROLLS ARE EASILY DISMANTLED and worn parts can be replaced, making life of rolls indefinitely long.

NON-LUBRICATED ROLLS
Attack Highest Costs

HIGHLIGHTS: *Use of ball-bearing front rolls and nylon-gudgeon back and middle rolls eliminates oiling in drafting zone—Rolls used on both spinning and roving frames—Picking and cleaning greatly reduced—Users report cost savings and quality improvement.*

By WILLIAM A. NEWELL
Managing Editor, TEXTILE WORLD



LESS ROLL PICKING, no lubrication, and better roving has resulted from mill installations of ball-bearing front rolls and nylon-bearing back and middle rolls.

EVERY MILL MAN TODAY is interested in cutting costs. One of the best ways to cut spinning and roving costs, a TEXTILE WORLD survey finds, is using frictionless, non-lubricated rolls on spinning and roving frames.

Mills contacted attributed a reduction in cleaning and oiling costs and a decrease in yarn deviation to use of non-lubricated ball-bearing front rolls and nylon-bearing back and middle rolls.

Complete elimination of oil and oiling in the drafting zone is an accomplished fact in many of these mills. Accompanying this saving is a great reduction in cleaning costs in roving and spinning as well as improvements in yarn quality.

Non-lubricated rolls have meant elimination of about 400,000 oilings per thousand spindles per year. In addition, there are no skipped or flooded bearings, no stained yarn, no oiling costs, and no oil dripping to worry about.

The mills also reported no further trouble with dry bearings or spinning frame startups on Monday mornings or after any shutdown. Formerly, the top rolls sometimes did not start rotating with the steel rolls as the frames were started, so that all of the ends went down, paralyzing the spinning room. The occurrence was common to almost any frame that had been shut down for a protracted time and the pressure of the saddle upon the top-roll gudgeon had had time to squeeze the oil out from the small area which it contacts. While there may have been plenty of oil on the bottom of the roll gudgeon at such starting times, there was no rotation to bring it up under the saddle where it was needed.

With permanently lubricated ball-

bearing rolls on the front lines and non-lubricated nylon-bearing rolls on the middle and back lines, mills have eliminated the cost and trouble of oiling in the drafting zone. There is no oil; so there cannot be oil stains. Neither can there be dry bearings to ruin start ups, because the front rolls are practically frictionless and hence always run almost as if geared to the steel roll.

ROLL PICKING. The frequency of roll picking in most spinning rooms today is increased by the adherence of lint to the oily roll gudgeons and bearing surfaces. While modern roll-picking accessories have greatly aided cleaning and its costs, there still remains the problem of lint caught and matted by oil and wound tightly around top-roll gudgeons by the rotation of the rolls. Eliminate the oil, and you can eliminate much of the roll picking. Ball-bearing top rolls are doing both on about 300,000 spindles in U. S. mills today.

Front top rolls require much more cleaning and picking, ordinarily, than do middle- and back-line top rolls. The only rotating exposed part of the ball-bearing front roll is the cot itself. The cot is constantly being wiped by the clearer, so that most of the lint goes up on the clearer where it belongs. Such reduced amounts of lint that do fall on the gudgeons of the ball-earing rolls cannot wrap themselves about them because the gudgeons do not turn. The lint hangs in loose accumulations, removable at the touch of a mechanical picker, brush, or fingers.

M. F. Thoma, president of Watatic Spinning Mills, Inc., of Fitchburg, Mass., states that a 50% saving in picking is a conservative estimate in his mills where ball-bearing front rolls alone are used. When nylon-gudgeon top rolls are also used on middle and back lines, cleaning is cut to the absolute minimum. Watatic uses Climax ball-bearing front rolls and Sintex nylon-bearing back and middle rolls. Both rolls are made and supplied by Machinecraft, Inc., Whitman, Mass.

In many cases, picking of the front rolls was reduced from once a day with conventional solid top rolls to once every five days with ball-bearing rolls on a three-shift basis. On back and middle lines, where nylon-bearing rolls replaced conventional solid top rolls, roll picking has been almost completely eliminated.

Watatic Spinning Mills, Inc., produces high-grade combed yarns from 16s to 60s. This mill group, including Wachusett Spinning Mills, Inc., and Fitchburg Yarn Co., both of which are also under Mr. Thoma's management, has in all about 10,000 ball-bearing and nylon-gudgeon top rolls, the first of which were put in about four years ago.

There are about 400 installations of these top rolls at this time and Mr. Thoma's findings are corroborated by other users in terms according to each mill's own conditions.

Recommended Weighting Of Ball-Bearing Top Rolls
(Climax)

	Cot-hole diameter in.	Buffed Diameter in.	Maximum recommended weighting-lb.	Remarks
Light	5/8	1 5/16 to 1	16	Recommended where space will not allow larger buff diameter
Medium	3/4	1 1/16 to 1 1/4	30	
Heavy	1	1 1/4 to 1 3/4	50	
Extra heavy	1 1/4	1 1/2 to 2	100	
Super heavy				For Bradford spinning

Break and Deviation Improvement In Yarn Produced by Non-Lubricated Rolls

	Ball-bearing and nylon-gudgeon rolls			Other type rolls—leather cots		
	Break Factor	Corr. Break	Std. Deviation	Break Factor	Corr. Break	Std. Deviation
Count: 70/1/31/-s						
1st Test	2972	42.5	1.37	2964	42.3	1.80
2nd Test	2905	41.5	1.28	2888	41.3	1.70
Average	2939	42.0	1.33	2926	41.8	1.75
Count: 89/1/35-s						
1st Test	2604	29.3	1.89	2552	28.7	2.33
2nd Test	2634	29.6	1.74	2526	28.4	2.49
Average	2619	29.5	1.81	2539	28.6	2.41

(All sizes more than five numbers from the average were ruled out.)

SOUTHERN REPORTS. One Southern mill reported complete elimination of oiling of top rolls where Climax ball-bearing and Sintex nylon-bearing rolls were installed.

Another Southern mill with a small installation of ball-bearing and nylon-bearing rolls reported an estimated 20% reduction in amount of cleaning required. Because of the size of the installation, no change had yet been made in the cleaning schedule. Less cleaning was particularly evident in picking of stands. Better yarn quality, better running yarn, and better yarn evenness were said to be apparent, although no formal tests had been made. This mill had eliminated roll oiling.

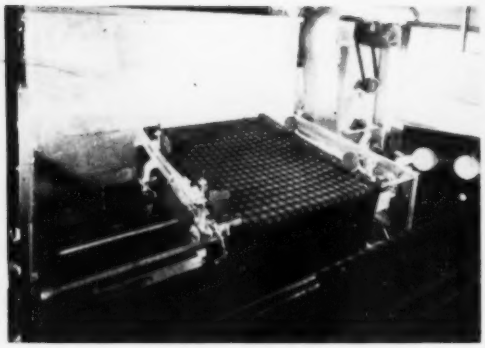
A third Southern mill reported good yarn evenness, elimination of oiling, less oily lint in yarn, and cleaner rolls. This mill had also installed ball-bearing front rolls and nylon-gudgeon back and middle rolls. The mill produces high-quality combed yarn.

A fourth Southern mill reported good results with ball-bearing rolls on roving frames, and elimination of oiling. The mill also reported that good quality yarn had been made on single-creel spinning.

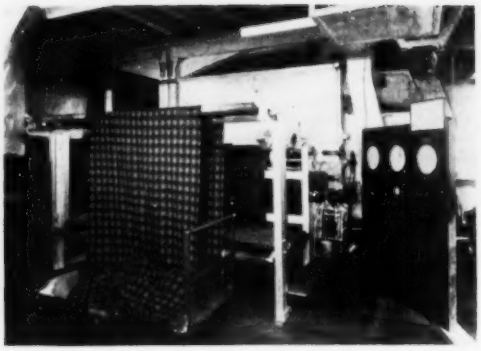
BETTER ROVING. Some of the mills contacted also reported better roving from the use of ball-bearing top rolls on the front line of their roving frames.

Stroboscope tests to determine the cause of the improvement showed that conventional top rolls do not turn at all in synchronism with the bottom steel rolls, but lag back in a rotation which is so erratic that it is impossible to arrest these conventional top rolls by the stroboscope's light. Ball-bearing rolls, on the contrary, in the same tests, turned steadily on the fluted steel rolls upon which they rested. While the weighting, of course, acts

(*Continued on page 204*)



FEED END of redesigned and rebuilt dryer has exhaust duct, under fan suction, at right edge of casing just in front of new high-pressure fan section. Three of the five immersion-type temperature-sensitive elements used for completely automatic control can be seen near the top and at the right side of the casing.



CONTROL PANEL operates the apparatus automatically at the highest conveyor speed and efficiency that the weight and moisture content of the goods will allow. In the rear, above the new fan section and headers, can be seen the outside-air intake preheaters and reheaters.

Modern Heat-Transfer Principles Improve DRYING

HIGHLIGHTS: *Redesigned dryer makes use of modern heat-transfer principles and automatic controls—Water evaporated at cost of 0.190¢ per pound—Time of woven wool felt drying dropped from 45 to 6 min.*

By C. BARTON ALBRIGHT
Industrial Consultant

PHENOMENAL INCREASES in textile-drying efficiencies can be achieved through the proper use of completely automatic control systems and modern developments in heat transfer. These developments have shown how to release, transfer, and dissipate greater quantities of heat energy in textile drying with considerably less temperature differential than previously imagined.

The mill owner is more often than not ahead of the game if he is able to have his present drying equipment redesigned and rebuilt to incorporate all of the features needed to produce maximum efficiency and economy.

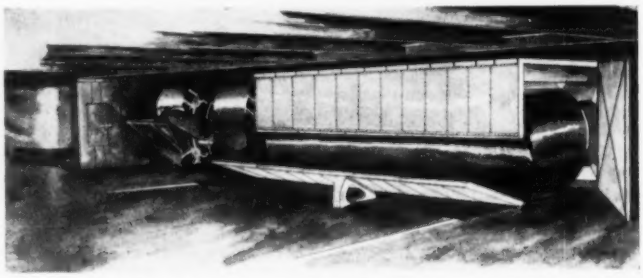
As an example of the above statements, refer to the illustrations which show views of a redesigned and rebuilt standard dryer. The original unit slowed the production rate of the entire plant. The plant's industrial and management engineers were unable to establish any basis for a wage incentive program in the finishing department because drying was the bottleneck.

The mill owners considered the purchase of a new and larger unit but decided, after serious study, to redesign and rebuild the old machine.

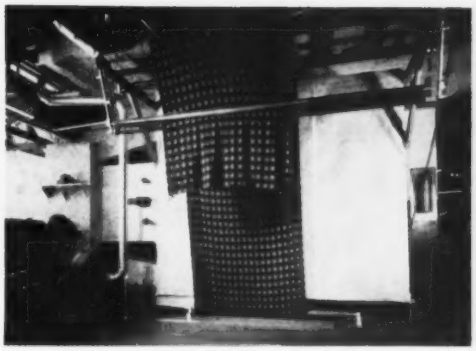
Every known feature of high-efficiency heat transfer and control was incorporated into the design. The total expenditure involved was less than the cost of a new apparatus, and the production rate was more than doubled. Further, during the process of redesign it was possible to incorporate features which resulted in extended capacities and temperatures, permitting the use of the equipment for the curing of textile resins in a continuous process which coupled curing to drying.

Records of operating cost over a one-year period indicate a figure between 0.185 and 0.190 cents per pound of water evaporated. This figure may be improved by further work now being done on automatic control extension.

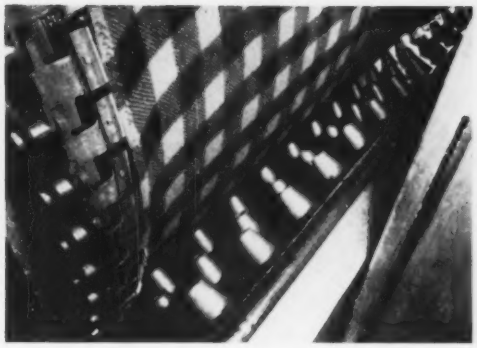
Laboratory tests have shown that this apparatus will now effect a cure of textile resin on 32-oz. woolen piece goods down to the hollow core of the fiber.



WOVEN WOOL FELT drying and curing apparatus has unsuspected main processing and driving drum. Just to the left of the main casing are the trunnion mountings that support the bearings and rollers, which in turn support the contilevered drum.



REAR VIEW of the redesigned textile dryer shows new parts to the left of and above the casing. Between the fan section and the casing is the new ceramic mixing and combustion chamber, allowing use of steam or gas or both.



PLENUM HEADER has multiplicity of high-pressure, high-velocity air nozzles. Four such headers completely surround the drum. Drum is wire-mesh covered. A portion of the wire mesh can be seen in the upper left section of the photograph.

WOOL-FELT DRYING. This machine was not the first on which these principles and techniques were employed, but it is typical of what can be done to revitalize existing machinery. An outstanding project on which the principles expounded here were proved is that illustrated in the photographs shown on these pages.

This project, of necessity, required the complete design of an entirely new apparatus. Endless woven wool felts as wide as 20 ft., as long as 250 ft. and as thick as ¾ in., were to be treated with a textile resin. The felts had been dried on steam-can dryers of a special type. Drying time on an average size felt was about 45 min.; on the largest felts about 1 hr. and 45 min. Laboratory tests proved that it was impossible to effect a successful textile-resin cure on these steam-can units.

In short, the new apparatus, incorporating every modern feature of efficient heat transfer and control, dries the average size felt in 6 min., the largest in 15 min. In one continuous process, the dryer will automatically cure the resin upon completion of drying. The average size felt will cure in less than 10 min. The largest will cure in less than 30 min. Therefore, the machine will both dry and cure a woven wool felt in less than half the time of drying alone on a steam can.

Accurate operating cost records have not been maintained, but it should suffice to point out that the apparatus paid for itself in less than two years.

For reasons of professional ethics it is not possible to describe the intricate detail of the principles of high heat-transfer efficiency that were applied on the two machines described above. However, it is in order to point out the scope of the principles involved.

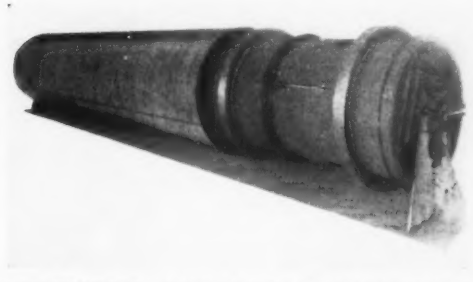
PRINCIPLES. Every woven fabric tends to the self-insulating, both through the fibrous structure of its composure and the film coefficient of the dispersed water particles trapped therein. Exhaustive tests and experience in the field have proved that the purely physical breaking down of the normal film at room temperature will allow and cause rapid explosion and displacement of the water vapor. The physical working and disturbance of the fibrous structure of the goods apparently aid this process.

In terms of practical application, the resulting displacement can be achieved by causing air at room temperature to pass entirely through the goods at very high velocity and with as much turbulence as possible. The path of the air must be absolutely vertical to the plane of the goods, and the entering and leaving air must be maintained at a high velocity. Penetration of the goods must be completely dispersed and even.

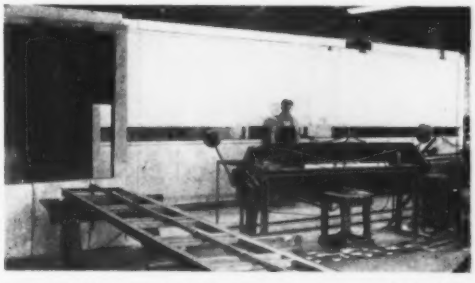
So far, only a physical break-up of the self-insulating qualities of the goods at room temperature has been described. If, to this method of attack, there is added a predetermined quantity of heat energy at a high temperature level, it is not hard to visualize the speed with which it will be possible to release and dissipate moisture.

The one-way travel of processing air through the goods presents a second working tool. The air leaving the

(Continued on page 186)



MAIN PROCESSING and driving drum has skin of stainless-steel wire mesh. At the right are rails from which the drum is hung and rotated. The end at right shows part of duct system in drum.



COMPARATIVE SIZE of insulated casing for woven wool-felt drying and curing apparatus is shown by 6-ft. mechanic standing nearby. The machine dries and cures in less than 30 min.

DYE-CYCLE CONTROLLERS automatically control dye heating rate and final temperature. Instruments are located in dyeing overseer's office.

FIRST-AID ROOM has walls of pale powder blue. This color is said to have a sedative effect on ill or injured employees who have been treated here.

Modern Equipment Rejuvenates LIPPITT MILL

HIGHLIGHTS: *Dye-kettle control system provides automatic control of dyeing cycle—Conveyor systems carry many types of material—First-aid room drops "hospital-white" color.*

By CHARLES H. LEACH

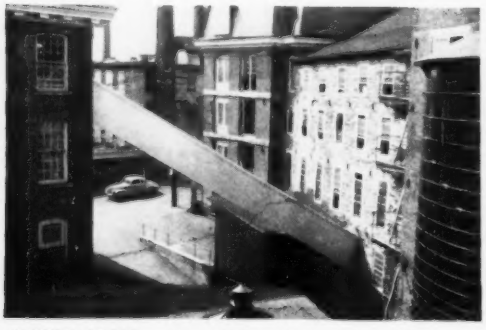
LIPPITT WORSTED CO., Woonsocket, R. I., is undergoing a program of rejuvenation that will make this unit one of the best-equipped worsted mills in Rhode Island.

This century-old plant consists of six 3-story buildings of fieldstone and brick construction. The building selected for the offices was once the spooling department. This is the "control tower" for the Airedale, Dorlexa, Lippitt, and Jeffrey Mills—four units in the Axelrod group in the Woonsocket area. It was decided that modern machines could handle the plant spooling requirements in one room; so the spoolers were moved elsewhere. Then the three-story building was given a thorough housecleaning and remodeling.

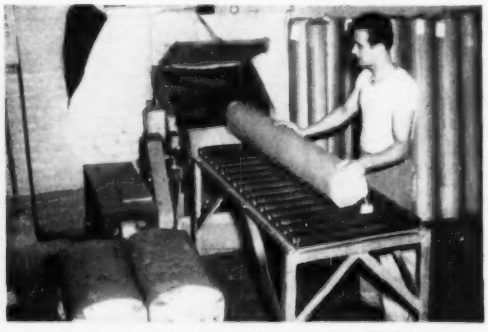
New floors, walls, ceilings, stairs, doors, and windows were installed in the office building. Three Carrier air-conditioning units, one for each floor, keep temperature and humidity at comfortable levels.

Floors are rubber-tile covered: ceilings are of insulating board and have flush, fluorescent-light fixtures. Picture windows are hung with venetian blinds

FROM CLOTH ROOM TO SHIPPING ROOM



FINISHED GOODS are dispatched to shipping room across the mill yard on this electrically powered conveyor.



BOLTS OF FABRIC are conveyed on a cleated belt inside a 100-ft., sheet-steel tunnel.

***MICRON PROJECTOR** magnifies wool staple 500 times actual size. Samples are projected on table for fiber measurement.*

***NEW LABORATORY** has drying oven (left) for dehydrating wool tops to determine moisture content of samples, and a conditioning room.*

and overdrapes of material made on the company looms.

A direct telephone system connects the four Axelrod plants in the Woonsocket area, and a teletype system reaches all six mills and the New York and Boston offices.

The auditing and payroll department is completely equipped with modern business machines, including a new National Cash Register bookkeeping unit which is invaluable in cost analysis. An Addressograph does the payroll work in one day, when formerly the same chore took a full week, with unmechanized units.

From the office building, the remodeling was extended to other departments. New corridors with walls and ceilings of composition board tinted pale green and trimmed with gray have replaced the old "spare floor" areas. The brick walls are hidden; the ceiling joists and rafters, once visible on upper floors, are now out of sight behind a lowered ceiling of insulating material.

The first-aid room is tinted a pale powder-blue. By getting away from the conventional hospital-white, a psychological change has been observed in ill or injured employees who have been treated here. Nurses state that the patients have experienced a noticeable uplift in spirit even before sedatives or stimulants were administered to them.

LABORATORY. The new chemical laboratory with its quality-testing and yarn-conditioning rooms is equipped with the newest and best devices for instantaneous or long-term tests. Here all raw, in-process, and finished materials are analyzed for weight, yarn count, tensile strength, oil and water content, etc.

A dark-room has a Bausch & Lomb micron projector which magnifies sheared filaments of new wool 500 times and enables the tester to measure fiber diameter.

The conditioning room, which is kept at constant temperature and humidity, contains a Scott single-strand yarn tester, an Alfred Suter yarn conditioner, and various other testing devices. Here a Sheffield Precisionaire tester gives a quick, accurate test of the diameter of raw-wool fiber in samples.

An Atlas Fade-Ometer checks all dyed samples for light fastness.

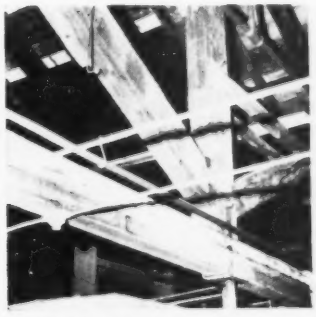
DYE HOUSE. In the dye house, where a week's production was formerly less than 100 pieces, the output has been increased to 1,100 pieces weekly. New stainless-steel dye kettles are replacing the old wooden, metal-lined machines in which solution temperatures were hand-regulated.

In the new dye kettles, the solutions are regulated by a dye-control system, installed by Foxboro Co., called the CycleLog controller.

The Foxboro CycleLog controller is a complete program-control unit which, without the use of cams or any auxiliary instrument, provides automatic control of the entire dyeing cycle. Infinite variations in the dyeing schedules are possible and can be made almost instantly by merely setting the control knobs on the front of the instrument case.

In the bright, airy office of the overseer, seven CycleLog controllers are attractively pedestal-mounted against one wall. When the operator reports that a dye kettle is loaded, the overseer sets the four knobs of the corresponding controller, thus starting the cycle. From then on, until the end of the dyeing operation, some 3½ hr. later, the entire cycle is under automatic control, following precisely the

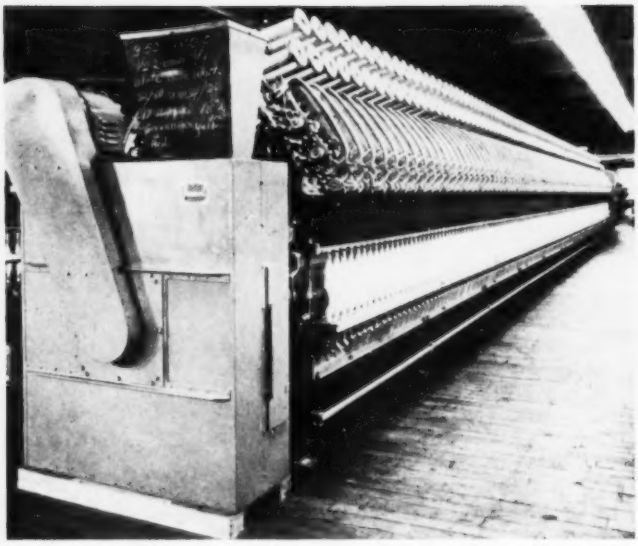
BEFORE



***CORRIDORS** before remodeling were dark and had these exposed trusses.*

AFTER

***NEW CORRIDORS** have walls and ceilings of composition board tinted pale green.*



FOUR BRADFORD FRAMES made by McGlynn Hays have been installed at Lippitt Mills during past four months. Pneumatil equipment is standard on frames.

schedule predetermined by the knob settings.

The adjustments include: starting point for temperature rise, rate of rise, holding temperature, and holding period. Throughout the entire cycle, the instrument makes its chart record; and signal lamps show the overseer, at a glance, exactly what is happening at each of the seven kettles, whether it is on the "rise" or the "hold" or at the "end of cycle."

The many advantages of such instrumentation are obvious. Without leaving his desk, the overseer has complete information at all times concerning the operations which are his responsibility; and with these operations under automatic control, he is assured of uniform practice and the desired results, without risk of error due to human failings. The CycleLog controllers, although adjustable at any time, can be locked to prevent tampering; and their charts provide an accurate and permanent record of the day's work.

As an experiment to test the accuracy of the graph meters, a kettle tender was instructed to increase the temperature in his vat from 70 to 212° F. in 1 hr. and to keep the rise as uniform as possible during the time allotted. He was not aware that the process was being recorded.

After 1 hr., the graph showed that the heat was increased from 70 to 180° F. in the first 15 min., then it fluctuated between 185 and 170° F. during the next 40 min. In the last 5 min. of the hour the tender brought the solution to boil at 212° F.

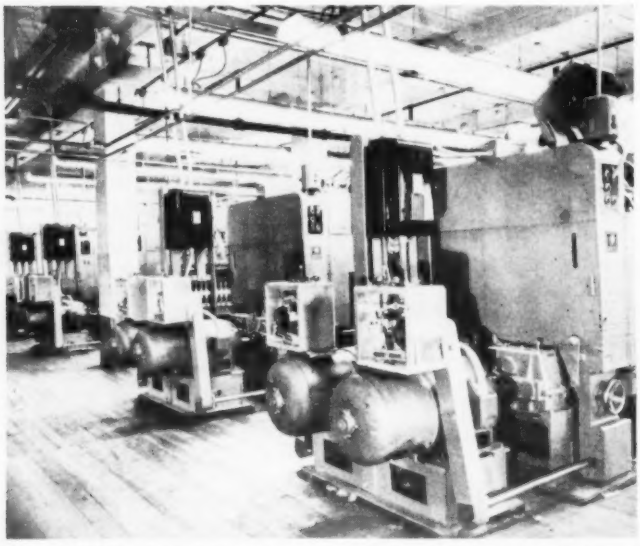
With the automatic system, the control can be set for the same increase in temperatures over the same span of time. By a gradual ascent, the temperature climbs at the rate of 2½° per minute. At the end of the hour, the marker on the graph had left its record in a sweeping curve from 70 to 212° in an unwavering, unbroken line.

FRAMES. Lippitt Mills has one of the first installations of the new McGlynn Hays Bradford spinning frames. Four frames are in operation, spinning 16s, 22s, and 32s. The high draft obtained on the new machines has made possible elimination of one roving operation.

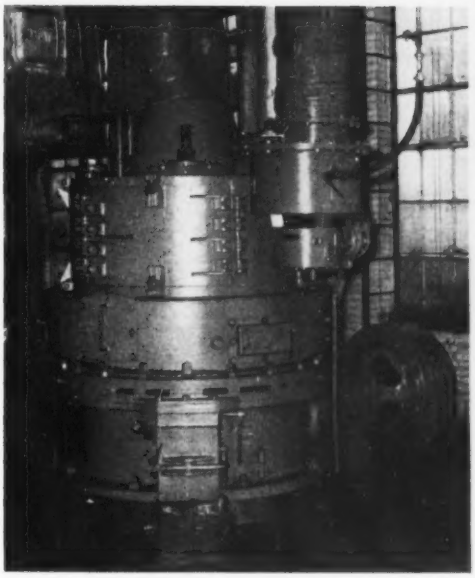
Conveyor systems are operating wherever they can be profitably installed, sometimes from one process room to the next on the same floor, sometimes from one building to another on different levels. The largest and longest carries cloth from a finishing and wrapping room to the shipping department, and is nearly 100 ft. long. It is an electrically operated cleated belt, with a reverse motion to return bundles from shipping deck to finishing room if necessary. This conveyor runs from the third floor in one building to the first floor in another across the yard. The belt is housed in a weather-tight, sheet-steel tunnel that is equipped with a sprinkler system.

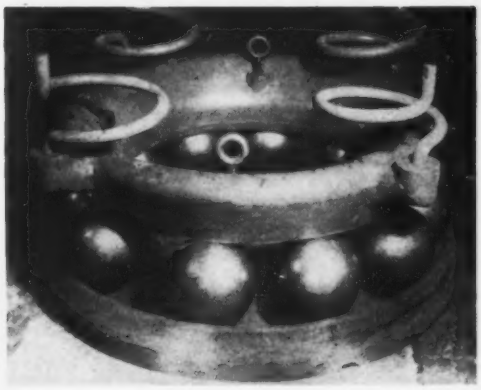
Smaller conveyors carry tops to drawing-process rooms, while others run elsewhere.

With all these improvements under way, the plant engineer still has a bookfull of others that will be perfected when the time affords. It is this kind of planning that makes for progress and stability, and guarantees a future for the textile and allied industries.



INDIVIDUAL MOTOR drives 200 spindles on each side of the McGlynn Hays Bradford frames at Lippitt Mills. Box above each motor is variable-speed "spin regulator," which increases and decreases spindle speed as rail falls and rises, keeping yarn tension uniform.





SPRING PRESSURE accounts for part of the improved grinding power. In addition, the cut-away top ring exposes the grinding balls to more coal and permits better air circulation. The bottom ring is the conventional type.

INCREASED GRINDING POWER resulted from this modified coal pulverizer at Springs Cotton Mills after the company power department had installed a spring-pressure top ring to the grinding elements. Coal enters pipe on right, circulates through grinders, and is drawn off to boilers through pipes at upper left.

Springs Gets More Steam By Improving PULVERIZER

HIGHLIGHTS: *Springs Cotton Mills steps up steam production with new coal-grinding device—50% more coal passes through 200-mesh screen than previously—Cut-away top ring and spring pressure are features of new pulverizer.*

By L. J. WILLIAMS

A NEW COAL-PULVERIZING DEVICE at Springs Cotton Mills, Lancaster, S. C., has solved the twin problems of increased steam needs and the more efficient use of a finer coal. The feat has been accomplished with existing equipment utilized more fully to obtain a capacity that would meet new requirements.

The mill could have bought new coal pulverizers already equipped with high-production spring-pressure devices to obtain the desired capacity. However, the management decided to install the new spring-pressure grinding devices in the existing pulverizing equipment, thus obtaining a triple saving. By altering their present equipment, the mill avoided a capital expenditure for new equipment; the quality of the coal pulverized by the altered equipment was better than former quality; the quantity of coal pulverized per unit was higher.

The crushing power of the new pulverizers was so much greater than the old that the coal is ground almost as fine as talcum powder. The percentage of coal passing through a 200-mesh screen was increased by about 50% over that of the conventional-type pulverizer.

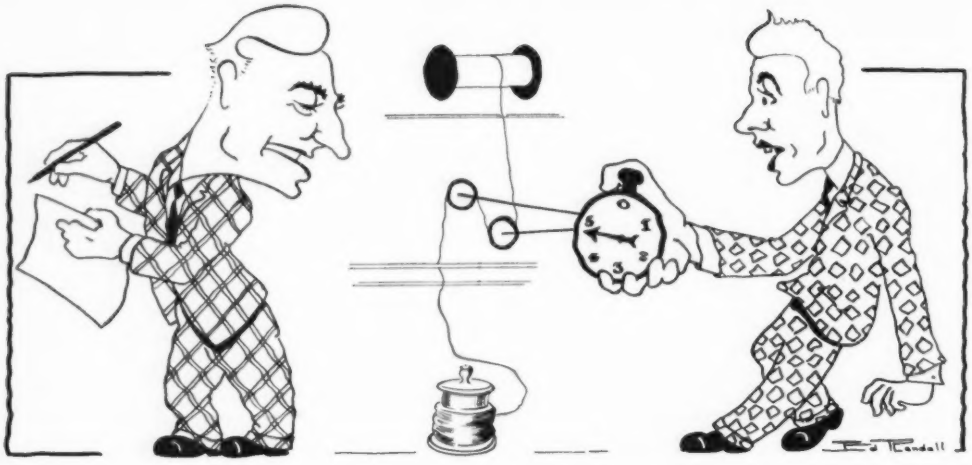
The parts of the new pulverizer are: (1) a somewhat modified top ring with a totally new coiled-spring pressure on the top; (2) conventional grinding balls; (3) a bottom ring similar to the bottom ring on a conventional pulverizer.

The top ring was modified to expose more of the grinding-ball surface to the air circulating through the grinding elements. This ring was cut away almost to the center line of the balls, and the heated air for drying and circulating the coal was admitted at the edge of the housing. The result is that air circulation on the pulverizers is considerably better than before.

The major change in the pulverizer was the addition of four coiled springs to the top ring. The springs replace the wearing plates that are normally used to prevent the rotation of the top ring. The powerful springs were developed two years ago by L. L. Leach of Babcock & Wilcox Co. The grinding devices now in use at Springs Cotton Mills were originally for Babcock & Wilcox Type-E pulverizers.

The lower ring on the modified grinding device is identical with that of conventional models. It rotates on the new pulverizers at 110 rpm. This rotation of the bottom ring while the top ring remains stationary and under pressure results in the grinding action of the balls.

The rings at Springs Cotton Mills power department are alloy castings; the balls are forged alloy steel. The parts will last approximately five years under normal use, officials say.



Reduce RAYON TENSION At Higher Humidities

HIGHLIGHTS: *Viscose rayon loses about 1% strength for every 1% increase in relative humidity—At 80% r.h., safe tension drops from 0.42 g.p.d. to 0.1—Yarn is slow to give up moisture, so shiners and other defects result—A 0.5% difference in yarn lengths may cause warp streaks in dyeing—Most damage comes in filling winding.*

By RENÉ BOUVET
Textile Research Dept., American Viscose Corp.

MOISTURE, WITHIN DEFINITE LIMITS, is a desirable element. It assists in the processing of textile fibers, yet can become a deterrent and be dangerous to quality when not present or found in excess. In many cases, it affects the tensile strength, the fiber form, hence the dimensional stability.

Viscose rayon at 55% r.h. and 75° F. has a moisture regain of 12%. Upon being made wet, its cross-section swells from 70% to 80%, or the equivalent of 30% in diameter. Lengthwise, a wet viscose fiber gains from 2% to 3%. Such a lengthening is not to be related to any external tension but to internal pressure exerted by the absorbed water. With dry extensibility of 20% to 55% r.h., its wet extensibility may reach 24 to 28% depending on the type of viscose.

The foregoing deals with extremes not found in the manufacturing-operating range. What happened in the manufacturing range is shown in Table I on the next page.

Starting at 55% r.h. and up to 70% r.h., every 5% increase in humidity is accompanied by a 1% increase in moisture regain. The loss in tensile strength amounts to 1% for every 1% increase in relative humidity. Another way to calculate the diminishing tensile strength of viscose is to figure that 0.1 gram per denier is lost for every 5% increase in relative humidity.

The rules are not overly accurate. They have been simplified to be more readily committed to memory. In practice they work well up to 70% r.h.

0.4 G.P.D. IS TOPS. At 55% r.h., tension equal to 18% of the total tensile strength do not damage viscose rayon. Based on 2.2 g.p.d., the maximum safe tension applicable at any stage is 0.4 g.p.d. If the same tension ratio should be used at 70% r.h., viscose rayon would unavoidably be stretched because the tension is higher than the yarn is capable of counteracting successfully.

An increase from 55% to 70% r.h. will reduce the strength to 0.3 g.p.d. The original tensile strength of 2.2 therefore is lowered to 1.9, and 18% of 1.9 gives a product of 0.34 g.p.d. Actually, at 70% r.h., 1.9-g.p.d. yarn will not accept even 0.34, but only 0.3. The higher extensibility it acquired has rendered it more sensitive and more easily deformable.

A condensed table of maximum tensions acceptable to continuous-filament viscose rayon is given in Table II.

Acceptable tension is that which the yarn can stand without a measurable gain in length. Gain in length (stretching) causes the well-known shiners. As stretched viscose gains in length, it loses somewhat in thickness: it also becomes noticeably stiffer and more lustrous.

Strained viscose rayon possesses an intense desire to go back to its former relaxed state. It will do so upon wetting and drying. But if it should be prevented from shrinking freely because of being held—as occurs in woven fabrics, or when knitted closely—the

Technical information has been here abstracted from the paper by Mr. Bouvet presented before the American Association of Textile Technologists.

strained sections in their effort to go back will pull tight. They will cause the cloth to pucker and the yarn to display higher luster.

Strained yarn is responsible for intermittently brilliant ends or picks, variably tight ends and tight picks (all generally referred to as shiners), and warp streaks and filling bands (as related to luster).

CAKE DRYING. Problems arise from the larger size of rayon cakes being used. Today, many 2-lb. cakes are being delivered. Many of them are soaked before being used to make voile or crepe yarn, and the question of thorough drying becomes very important.

Poor drying of cakes soaked with gelatin and oil was found in a test to be responsible for *producing fabric* with an amazing effect ranging from a bad case of shiners to matelasse appearance.

The result was expected, for indications of what was happening had been recorded during winding by means of a tensometer. While the general tension readings hovered between 15 and 18 grams, the tensometer in spots jumped up to 50, an amount definitely too high for the 100-den. yarn being processed.

Mere visual inspection of the dried cakes cannot be trusted, nor can touching outer and inner layers. The state of dryness should be settled by moisture-regain tests.

When drying viscose rayon, the yarn is capable of accepting, for reasonably long periods, temperatures as high as 170° to 180° F. But at such temperatures, the components of the soaking treatment often deteriorate; accordingly, better mills find it to their advantage to operate at 160° F., and to control the wet bulb at 135° F.

Calculation of the drying time is influenced by many factors besides the cake size. While the duration must be lengthened as the package becomes thicker, greater air circulation may help to increase the dryer capacity so that the loss in production may be kept low.

WARPING TEST. In a test to control tension of section beams on a slasher, excess yarn length was found on quite a few ends. The section beams had a comparatively low number of ends; still the face of each beam was smooth and showed no indications of ridges. It was eventually concluded that some ridgy condition must have existed as the section beams were being warped. It probably was present on the top layers as warping proceeded but flattened out as more laps were added. However, the harm had been done. Some ends had actually been warped longer than others.

Variations in yarn length can be expected to be visible in dyed merchandise from the moment a difference of 0.5% exists. The defect appears in the form of warp streaks which are not related to dye index changes but to differences in luster.

A similar condition exists when operators warping on the silk system fail to set the bands or sections accurately. The poor joinings cause groups of ends to be either short or long.

The effect is so well identified that it is generally called section marks.

FILLING WINDING. Rayon can be most easily and is most steadily damaged during filling winding (copping). The desire to produce cops which hold well in the shuttle too often leads to use of excessive tension.

Relentless tension supervision and adequate humidity control in the copping department offer the best cure for filling shiners. Humidification and dehumidification in the copping department can be expected to give important returns in improved quality. A two-way system is specified here.

Take, for example, a quilling machine running 150 den. bright viscose and adjusted to give a maximum tension of 60 g. at 55% r.h. Such tension hits the top, but still remains within the allowable area. If, for some reason, the relative humidity touches 65%, the yarn strength is reduced by about 10%. But to make matters worse, upon measuring the tension it will be found that instead of having maximum readings of 60 g. the tension has risen to 65 if not 70. In other words, a weaker yarn is being subjected to higher tensions. The outcome of such a situation is clear.

Table I. Effect of Humidity on Strength of Viscose Rayon

Relative Humidity (%)	Regain at 76° F. (%)	Strength retained (%)
55	12	*100
60	13	95
65	14	90
70	15	85
75	17	—
80	19	—
90	24	—
100	35	—

*Arbitrarily adopted as the starting point.

***LOSS IN STRENGTH** is normally 1% for each 1% increase in humidity. (Figures tabulated are from data provided by J. G. Wiegerink.)*

Table II. Maximum Tensions Acceptable For Continuous-Filament Viscose Rayon

Relative Humidity	Max. Tension in g.p.d.
55	0.42
60	0.38
65	0.35
70	0.3
75	0.22
80	0.1

ACCEPTABLE TENSION is maximum that yarn can stand without elongating seriously. Overstretched yarn results in shiners and puckering in the fabric.

Why should the tension have increased? The reason is that the increased moisture in the yarn has affected the coefficient of friction upward. The relationship existing between humidity and coefficient of friction can be expressed simply by saying that for each 1% rise the tension increases 0.75%.

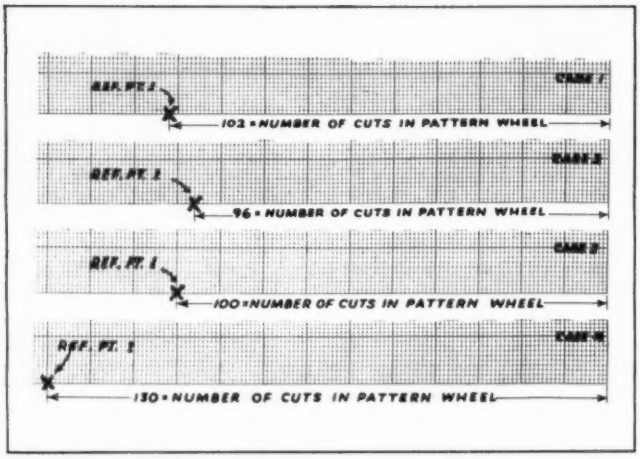
When tension devices of the snubbing type are used, the coefficient of friction becomes two or three times greater; and the ultimate tension is respectively raised either to the second or to the third power. Expressed in numerical values, a 6 g. tension would be raised 36 g. in the first case and to 216 g. in the second.

MOISTURE RETENTION. Viscose is a highly hygroscopic fiber which absorbs moisture rapidly if properly exposed. But it is not too well known that on the downward readjustment it will not reach equilibrium freely: it will stop at a moisture regain 3% higher than the one governed by the atmosphere in which it is placed!

Viscose rayon in equilibrium at 70% r.h. will show a 15% moisture regain; but if it is allowed to stand for days at 55% r.h., it will not drop to 12%. Due to this particular characteristic, viscose rayon should never be exposed to unduly high humidity. The ideal condition for a plant handling filament viscose would be to stay within 55% and 60% r.h. This range, of course, can hardly be achieved unless humidifying and dehumidifying means are both available.

SLASHING. Unless it is slashed, a three-turn rayon warp will not weave. Common sense dictates use of as little size as necessary for comfortable weaving, also use of sizing ingredients

(Continued on page 182)


REF. PT. 4
CAM 1
102 = NUMBER OF CUTS IN PATTERN WHEEL
REF. PT. 3
CAM 2
96 = NUMBER OF CUTS IN PATTERN WHEEL
REF. PT. 2
CAM 3
100 = NUMBER OF CUTS IN PATTERN WHEEL
REF. PT. 1
CAM 4
130 = NUMBER OF CUTS IN PATTERN WHEEL

Figs. 1,2,3,4. REFERENCE POINTS are counted off, from right to left, to the number of cuts in pattern wheel.

Nine Steps For Laying out A Pattern Area

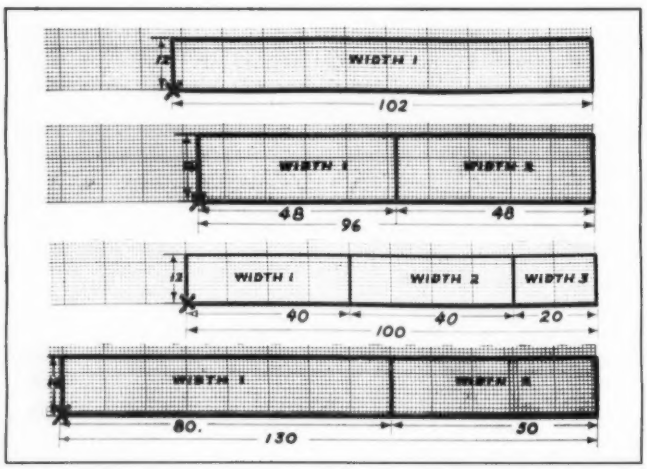
1. Mark reference point on lowest line of graph paper, the same number of boxes from the right as there are cuts in the wheel.
2. Draw rectangle with height equal to number of positive pattern wheels, and partition into sections equal to widths of schematic pattern wheel.
3. Mark second reference point to left of first reference point, and at height in line with top of first rectangle or layer.
4. Draw second rectangle or layer from the new reference point, just as in step 2.
5. Mark as many reference points and layers as there are widths in pattern wheel.
6. Fill in pattern repeats.
7. Choose a pattern area of all widths in as simple a vertical shape as possible.
8. Outline perimeter of pattern area and label it.
9. Check peak height by multiplying number of widths by number of feeds carrying positive pattern wheels.

PATTERN AREA Layouts Should Be of Simple Shape

By ABRAHAM ABRAMS and LESTER MISHCON

HIGHLIGHTS: *Pattern wheel widths pile above each other as wheel turns—Wheel is filled with jacks according to width sequence—Area layout depends on widths in wheel, primary pattern width, and number of positive feeds—Graph paper is used in laying out the pattern area in advance.*

This article with its illustrations is based on information taken from "Pattern Wheel Designing for Circular Jersey Knitting Machines," a book just published by Supreme Knitting Machine Co., Inc.



Figs. 5,6,7,8. HEIGHT of rectangle drawn next equals the number of positive pattern wheels. Rectangle is partitioned into sections equal to the widths of the schematic pattern wheel.

THE KNITTER who is conversant with pattern-wheel widths is able arithmetically to calculate the widths of all pattern areas for use on Supreme sinker-top-type pattern-wheel machines. With this information and a little practice, he will be able to make a layout on graph paper of the pattern area proper and all the adjoining pattern areas. This is extremely important for the following reasons:

1. To reveal the height of all pattern areas, regardless of shape.
2. To reveal the shape of the pattern area, whether four-sided, six-sided, or eight-sided.
3. To reveal the rise and fall and the horizontal offset of the pattern in its repetitive form.
4. To reveal the adjoining pattern areas and to allow the knitter to match edges to obtain a cohesive overall pattern.
5. To reveal the order in which the pattern-wheel widths pile above each other as the wheels revolve.

This information is important since the widths do not always pile on each other in regular order, but may, taking a five-width wheel for example, pile on each other in some unusual order, as 1, 3, 5, 2, 4. The knitter must know the order in which the widths do pile up, since the pattern wheels are filled with jacks in accordance with the width sequence.

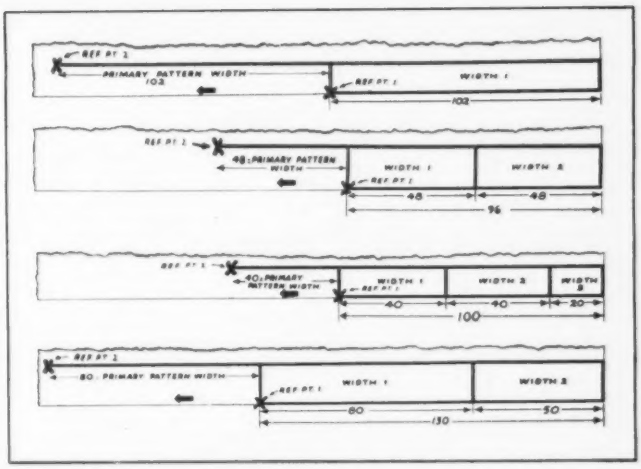
PATTERN AREA LAYOUT. Since the pattern area layout is so important, a few rules can be set up for the simplified method of layout to be applied to any combination of cylinder and wheel on Supreme pattern wheel machines. The following information must be known:

1. The schematic wheel drawing of the Supreme pattern wheel, showing the size and total number of widths in the wheel.
2. The primary pattern width.
3. The number of positive pattern wheel feeds. (Since the majority of Supreme pattern wheel machines in use are set for two-color knitting of patterns, only one-half the number of feeds carry positive pattern wheels.

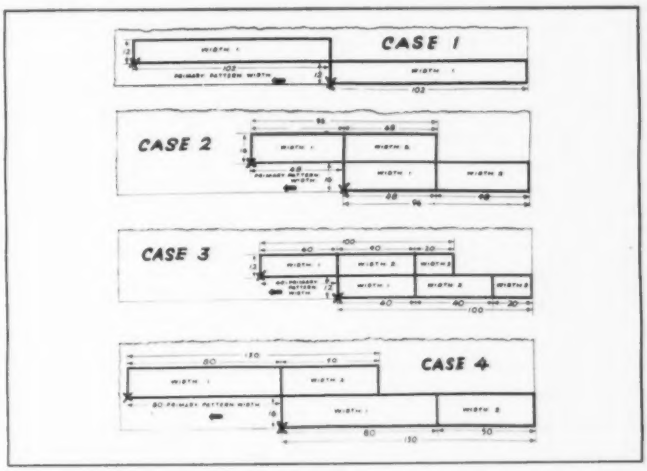
The pattern area layout is made on ordinary graph paper ruled eight or ten squares to the inch. It is advisable to use a sheet of paper large enough so that the number of squares in the length is approximately three times the number of cuts in the pattern wheel, and the number of squares in the height is about one-half the length. Later, experience in pattern-area layout will allow the knitter to choose the correct size sheet of graph paper quickly.

Each square represents a needle, each vertical line of squares represents a wale, and each horizontal line of squares represents a course in the knitted cloth. To illustrate the rules of simplified pattern area layout, four cases will be used. [See Table 1.] Each of the examples has a different number of needles, a different number of cuts in its pattern wheel, differing pattern wheel feeds, and different pattern widths.

MARK REFERENCE POINT. The first step in laying out a pattern-area is to mark off a reference or starting point by an "x" on the intersection of a specified horizontal and vertical line. The horizontal line should be the lowest line on the graph paper, and the vertical line should be the same number of boxes from the right hand edge of the paper as there are cuts in the wheel. (See Figs. 1, 2, 3, and 4.)



Figs. 9,10,11,12. **SECOND REFERENCE POINT,** equal to the number of slots in the primary pattern width, is indicated from the upper left corner of rectangle.



Figs. 13,14,15,16. **SECOND LAYER** is drawn similar to original rectangle.

DRAW LAYER. Next, using the reference point as the lower left-hand corner, construct or draw a rectangle, the length of which is equal to the number of cuts in the pattern wheel and the height of which is equal to the number of positive pattern wheels. Then, working from left to right, partition the length of the rectangle horizontally into sections equal to the width of the schematic pattern wheel. Mark each section 1, 2, 3, etc., lightly to correspond with the widths of the pattern wheel. (See Figs. 5, 6, 7, and 8.)

The rectangle that was just drawn is called a layer and is equal to one complete turn of all positive pattern wheels starting from the same needle. Note that in two-color knitting, the positive pattern wheels always define the pattern figure, whether the machine is equipped with positive and negative wheels or positive wheels and plain feeds. Since the majority of Supreme latch-needle pattern wheel machines in use are set for two-color knitting of patterns, only one-half the number of feeds carry positive pattern wheels.

MARK SECOND REFERENCE POINT. Third, mark off a second reference point as many boxes to the left of the first starting point as there are slots in the primary pattern width

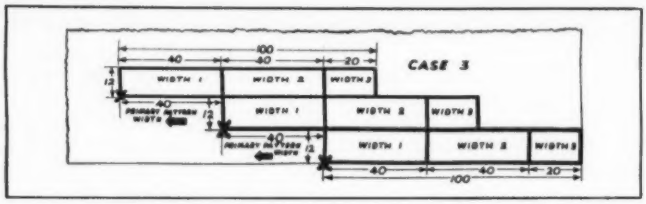
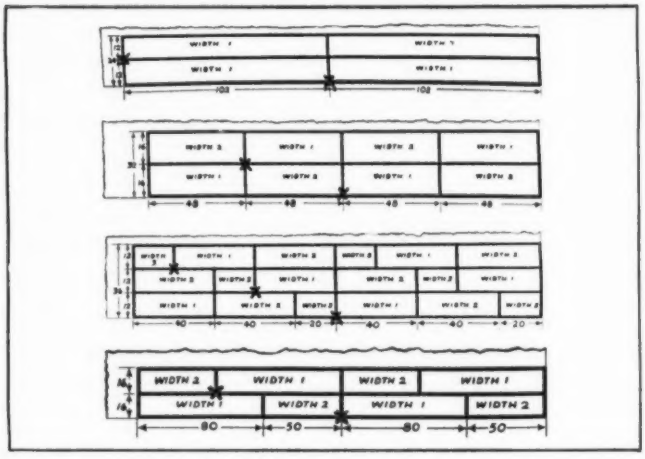


Fig. 17. TOTAL WIDTHS in pattern wheel determine the number of layers.



Figs. 18,19,20,21. REPEATS of pattern wheel widths are filled in

and at a height in line with the top of the first layer or rectangle. (See Figs. 9, 10, 11, and 12. In order to make the explanation clearer, the graph paper background has not been shown in these diagrams.)

DRAW SECOND LAYER. Fourth, using this new reference point as the lower left-hand corner, draw another identical rectangle or second layer, and again divide it into sections equal to the pattern wheel widths. Mark the sections 1, 2, 3, etc. The top line of the first layer may form a portion of the bottom of the second layer, and the amount that the second layer is offset to the left of the first layer is called the "advance" of the pattern wheel and is always equal to the primary pattern width. (See Figs. 13, 14, 15 and 16.)

COMPLETE LAYERS. Fifth, continue to mark as many reference points and lay out as many layers as there are widths in the pattern wheel. This amount is the minimum necessary to determine the pattern area, and several more layers may be necessary to see the full rise and fall of the pattern area. Experience will dictate if any additional layers are needed. (See Fig. 17.)

FILL IN "REPEATS". Sixth, fill in the "repeats" or pattern wheel widths on both sides of those already on paper, following the set sequence of pattern wheel widths. (See Figs. 18, 19, 20, and 21.)

CHOOSE PATTERN AREA. Seventh, choose a pattern area that serves the purpose, taking into consideration such factors as the shape, the rise and fall, and the horizontal offset. The pattern area on graph paper consists of a combination of all the pattern wheel widths found in one Supreme pattern wheel connected together in a four-sided, six-sided, or eight-sided figure, the area of which is equal to the number of positive pattern wheels multiplied by the number of cuts in a pattern wheel. In any figure chosen, each width must appear only once. In general, since it is easier for patterning, the widths are connected together in a vertical direction in as simple a shape as possible. Once a particular shaped area has been chosen, all the other shapes for that case must be discarded; and the chosen shape is the only one that should be considered as repeating itself when drafting the pattern.

EXAMPLES OF AREAS. In Case 1, Fig. 22, there is only one area that can result from the graph paper layout. This is a rectangular or four-sided area, 12 boxes high and 102 boxes wide, repeating directly above itself all the time, marked "A". This type of wheel and area has the advantage of being the easiest to calculate and lay out, but it is usually limited in its use to the production of cloth with vertical stripes or small vertical designs.

In Case 2, Fig. 23, there are two possible areas which result from the graph paper layout. One is marked "B" and is 16 boxes high and 96 boxes wide, and the other, which is marked "C", is 32 boxes high and 48 boxes wide. The one marked "C" is considered more desirable. This type of wheel gives the most usable pattern area.

In Case 3, the result of the graph-paper layout may be any of the many four-sided, six-sided, or eight-sided areas, some of which are shown in Fig. 24. In general, the one chosen is the L-shaped area marked "D" which is 36 boxes high. It is 40 boxes wide at its widest portion and 20 boxes at its narrowest portion.

In Case 4, the result of the graph paper layout may be any of the four-sided, or six-sided areas shown in Fig. 25. In general, the one chosen is the L-shaped area marked "E" which is 32 boxes high, 80 boxes wide at its widest portion and 50 boxes at its narrowest portion.

Note that in all cases the pattern areas contain all the widths that there are in the wheels. Although there may be a choice in the shape of a particular area, the total area for any particular case is identical.

LABEL AREAS. Eighth, isolate the one chosen pattern area by drawing a heavy line around its perimeter. Outside this perimeter, label each horizontal line of boxes contained in the area with the proper width and wheel number. An illustration of this procedure is seen in pattern area "C" for Case 2. (See Fig. 23.) Since this area was chosen in a vertical direction and is made up of two widths, Width 1 and Width 2, the lower portion represents all the Widths 1 in all 16 positive pattern wheels, while the upper portion represents all the Widths 2 in the 16 positive pattern wheels. Start by labeling the lowest line of boxes in the bottom portion, or Width 1. Since the positive pattern wheels are all odd-numbered, call this line Width 1 of Wheel 1. (See Fig. 26.) Mark this outside the perimeter on a level with Line 1. Since the next wheel is Wheel 3, the next horizontal line of boxes is labeled Width 1 of Wheel 3. The next line

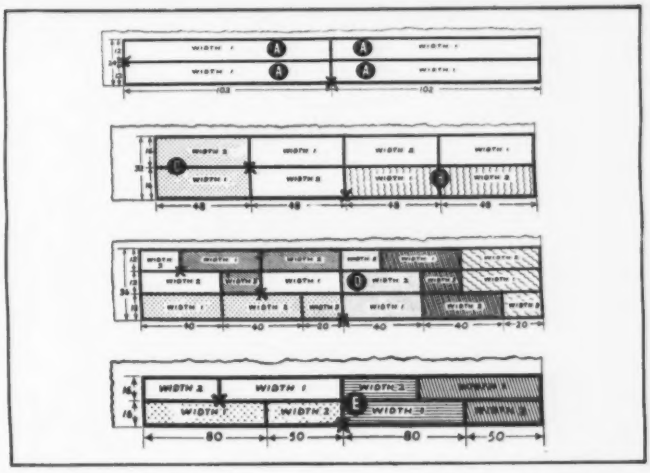
above that would be Width 1 of Wheel 5. Continue in this manner to Width 1 of Wheel 31, which is the top line in the bottom portion of the pattern area.

This brings us to the upper portion of the pattern area. The first horizontal line of boxes in that portion is labeled Width 2 of Wheel 1, the second line is labeled Width 2 of Wheel 3, and so on until you reach Width 2 of Wheel 31. All the 32 lines in the pattern area are now labeled. Each slot in all the positive pattern wheels is represented by a tiny square in the pattern area. This labeling is necessary later in order to fill the wheels from the pattern drafted in the chosen area.

CHECK PEAK HEIGHT. Finally, as a check on the pattern layout, the knitter can calculate the peak height of the pattern area that is chosen in a vertical direction. The peak height of such a pattern area is found by multiplying the total number of widths or wedges in the schematic pattern wheel by the number of feeds carrying positive pattern wheels. Expressed as a formula, it is:

(Total number of widths in wheel) x (number of feeds with positive wheels) = (peak height of pattern area chosen in vertical direction.)

TEST CASES CHECKED. Do this final step for all four of our cases, remembering that in all cases, only one-half the total number of feeds carry positive pattern wheels. If in Case 1, number of feeds on machine = 24, number of feeds carrying positive pattern wheels = 12, and total number of widths in wheel = 1, the peak height is then: (12) x (1) = 12. (See the area marked "A" in Fig. 22.) If in Case 2, number of feeds on machine = 32, number of feeds carrying positive pattern wheels = 16, and total number of widths in wheel = 2, the peak height is then: (16) x (2) = 32. (See the area marked "C" in Fig. 23.) If in Case 3, number of feeds on machine = 24, number of feeds carrying positive pattern wheels = 12, and total number of widths in wheel = 3, the peak height is then: (12) x (3) = 36. (See the area marked "D" in Fig. 24.) If in Case 4, number of feeds on machine = 32, number of feeds carrying positive pattern wheels = 16, and total number of widths in Wheel = 2, the peak height is then: (16) x (2) = 32. (See the area marked "E" in Fig. 25.)



Figs. 22,23,24,25. PATTERN AREAS are chosen in a vertical direction and in as simple a shape as possible.

LOOP CLOTH. The height and width of the pattern area for loop cloth made on the Supreme Model ML Pile Fabric Machine is calculated in the same manner as that for needle-patterned cloth. However, since there is no necessity for knitting off or clearing held loops, and since there are no floats and no limitations such as the number of successive tucks, sinker patterned designs may be larger and more varied than needle-patterned designs.

The majority of loop cloth is made in one color with all the sinker pattern wheels knitting as positive pattern wheels. The pattern area for this type cloth would consist of all the positive pattern wheels which carry the pattern proper or all the pattern wheels on the machine. However, two-color effects can be obtained in loop cloth by using positive and negative sinker pattern wheels with different colored pile yarns on alternating feeds. All these facts should be taken into consideration when the pattern area for loop cloth is laid out on graph paper.

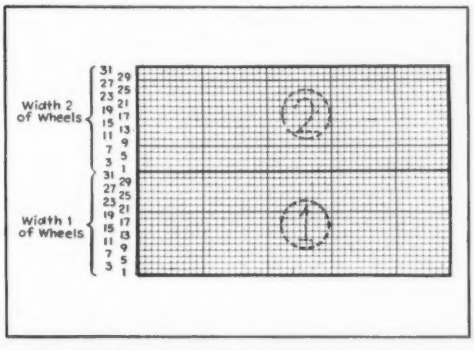
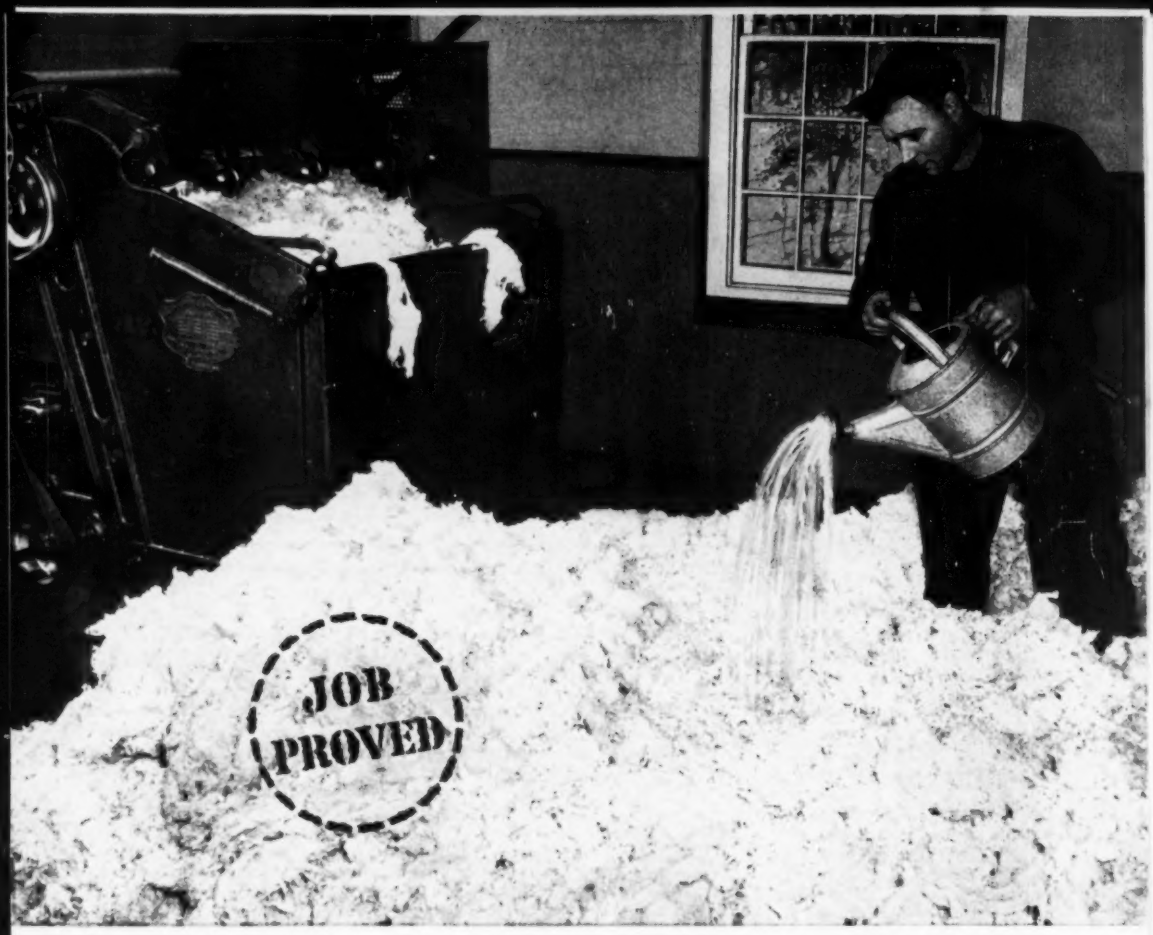


Fig. 26. LABELING OF LINES in pattern area is necessary for later filling of the wheels from the pattern drafted in the chosen area.

TABLE 1

Examples of different combinations of cylinders and wheels used to illustrate rules for a simplified pattern area layout.

	Case 1	Case 2	Case 3	Case 4
Number of needles in cylinder	1,020	1,008	640	1,380
Number of cuts in pattern wheel	102	96	100	130
Number of pattern-wheel feeds	24	32	24	32
Number of positive pattern-wheel feeds	12	16	12	16
Primary pattern width	102	48	40	80
Number of primary widths in wheel	1	2	2	1
Secondary pattern width	none	none	20	20
Number of secondary widths in wheel	none	none	1	1



SUNOTEX INCREASES YIELD 3%

Wool Fibres Lubricated Quickly and Thoroughly; Corrosion on Pickers and Cards Eliminated

A company processing wool for piano felts switched to Sunotex five years ago in an effort to improve production. Right from the start, yield increased 3 pounds per 100 pounds of wool processed. In addition, the mill is saving time in the preparation of emulsions, because Sunotex mixes readily with water.

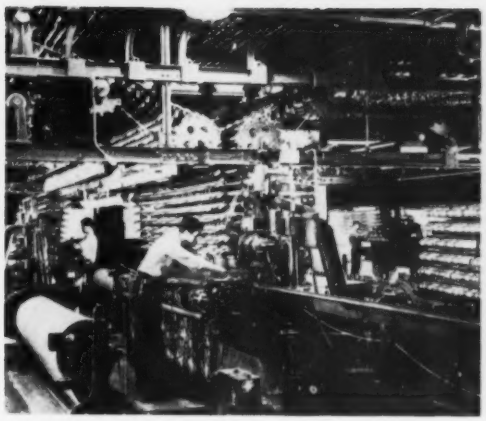
The Sunotex emulsion is applied on a layer of wool three inches thick. This is repeated, layer after layer, until the desired amount of wool has been made ready for the picker. Sunotex penetrates these fibres quickly, thus speeding production. And in the carding room Sunotex performs another important function by keeping dry webs from breaking, enabling men and machines to produce steadily.

"Job Proved" Sunotex prevents corrosion on metallic surfaces of pickers and cards, scours out easily and cleanly. This is typical of the way Sun Textile Processing Oils enable manufacturers to cut costs, speed production, improve quality, and protect costly machines. For further information about Sunotex and other Sun products for fibre processing, call or write the nearest Sun Office. The services of a Sun Engineer are available to you without obligation.

SUN OIL COMPANY • ***Philadelphia 3, Pa.***
In Canada: Sun Oil Company, Ltd.
Toronto and Montreal

SUN PETROLEUM PRODUCTS
"JOB PROVED" IN EVERY INDUSTRY

SUNOCO



AXMINSTER LOOMS have numerous stop motions tied to annunciator system. Author's company builds most of its own looms.

JACQUARD LOOMS are, in effect, velvet looms with jacquard heads. Looms shown here were built by Lansdowne Steel and Iron Works.

IMPROVED CARPET LOOMS
Boost Weaving Production

HIGHLIGHTS: *Higher speeds achieved—Less waste made—New features are automatic stop motions, larger packages, controlled lubrication, more rugged construction—Jacquards now using single beat-up.*

By H. M. CATLIN
Bigelow-Sanford Carpet Co.

THE MOST NOTABLE IMPROVEMENTS in axminster-loom design is the drawing of needle and knife motions and overhead mechanism by a separate automatically controlled motor. This drive has been designed to take the main part of the load on the loom-chain drive.

Automatic knock-off devices have been developed which protect against failure of operation of tube from clutch arm and whiproll, dropping of tube frames, warp and filling breaks, etc. These stop motions are tied in to an annunciator system which indicates to the weaver the cause of the loom stop. Such an arrangement of stop motions has provided some mills with an opportunity to go into multiple-loom operation.

Steel has been sustituted for wood in the design of tube frames and spools. The sizes of both spools and beams have been increased. These improvements have had a marked effect in increasing overall loom efficiency and in reducing waste. A centralized-lubrication system with a single-shot application insures proper lubrication to all bearings and saves valuable weaving-operating time. The use of improved bearings, profiled cams, good machining, and careful building with rugged construction have produced a loom capable of greatly increased speed and high productivity.

VELVET LOOM. Although the fabrics woven on velvet and jacquard looms vary widely, these two looms are basically so similar that they can be considered together. The velvet loom weaves a plain fabric with pile yarn supplied from a beam. The jacquard loom is essentially the same loom with a jacquard mechanism added to operate the lingoes which raise the proper ends of pile yarn to form the pattern, using the pile yarn supplied from creel frames located behind the loom.

Recent developments in velvet and jacquard looms have been directed toward improved wire motion, mechanical refinements, more rugged construction, better balance, and larger beams. The use of larger yarn packages and vertical creels has greatly improved jacquard-loom efficiency.

Until recently, most jacquard looms used a double-beat lay motion, while velvet looms used a single-beat motion. Jacquard looms are now using a single-beat, which appears to produce just as good cloth and allows a little more leeway in timing the loom.

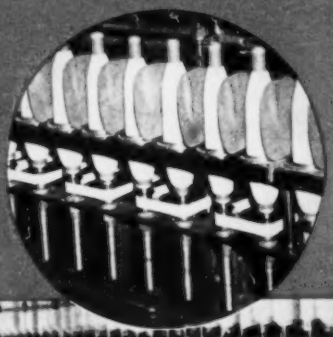
The older looms were driven through a clutch and counter shaft from a motor located at the left-hand side of the loom. The drive has now been relocated to the wire-motion side, with a direct gear drive applied immediately at the point of maximum load. This change, along with motor improvements and the use of oversize solenoid brakes, has made a substantial improvement in the drive.

Mechanical improvements include improved picking arrangement, profiled cams, solid roller-bearing lay motion, solid forged spike roll, improved breast plate with removable brass strip, and improved lubrication. The rugged construction, high-speed wire motion, and single-beat lay motion have resulted in a loom which is capable

(*Continued on page 206*)

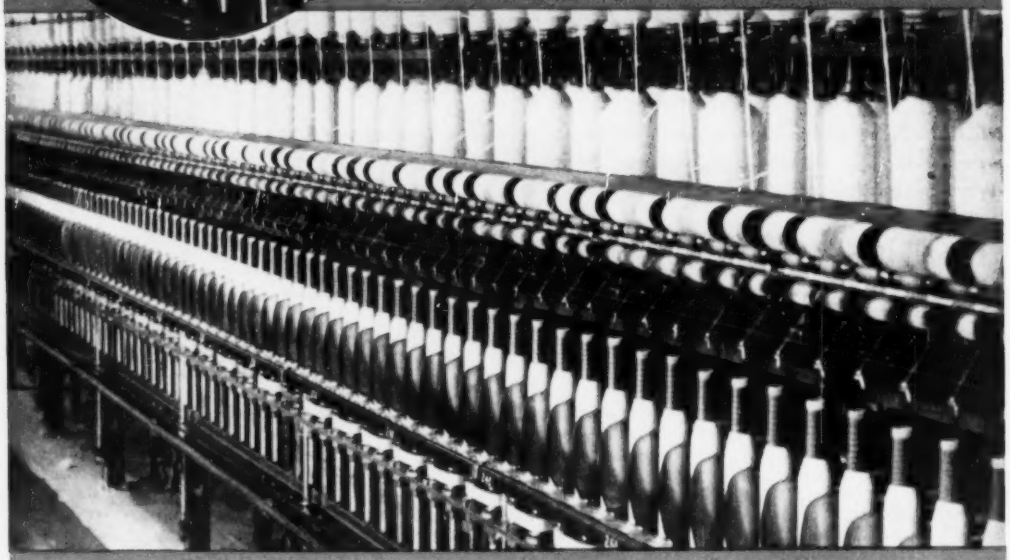
Digested here is a paper read at the New London, Conn., meeting of the Textile Division, American Society of Mechanical Engineers. Mr. Catlin is the manufacturing-engineering manager for Bigelow-Sanford in Thompsonville, Conn.

Marquette ROLLER BEARING SPINDLES *with* FULL-FLOATING FOOTSTEP BEARING *For Cotton, Rayon, Nylon, Wool, Worsted*



This cotton mill has 20,000 Marquette Roller Bearing Spindles equipped for 12 in. paper tubes holding 10.8 oz. of yarn. They replaced plain bearing spindles equipped for 10 in. tubes holding 7 oz. of yarn. Increase in tube length resulted in a yarn gain of 54%. Power consumption was reduced 13%.

Increase your production and reduce your costs by modernizing your old frames with Marquette Roller Bearing Spindles, or specify them on new frames. They operate efficiently at high speeds with large packages, and require less power. For a test installation, contact our home office or one of our representatives.



PROTECTED BY U. S. AND FOREIGN PATENTS, AND PATENTS PENDING

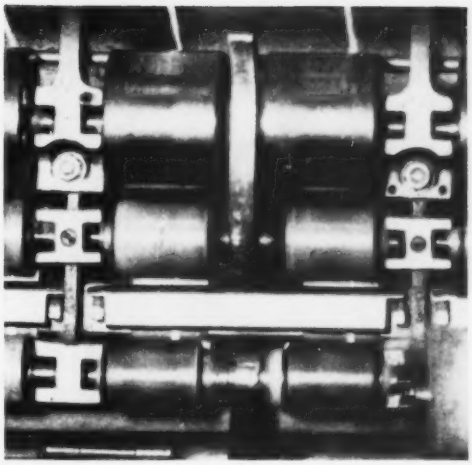
The Marquette METAL PRODUCTS CO.

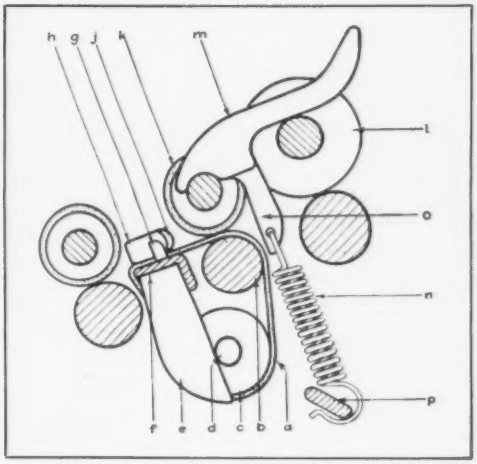
CLEVELAND 10, OHIO

SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

Also Manufacturers of: HYDRAULIC GOVERNORS • FUEL OIL PUMPS
WINDSHIELD WIPERS FOR AIRCRAFT, TRUCKS AND BUSES
FUEL OIL INJECTORS • PRECISION PARTS AND ASSEMBLIES

BYRD MILLER, WOODSIDE BLDG., GREENVILLE, S. C. • C. H. WHITE, 1229 PAMLICO DRIVE, GREENSBORO, N. C.
WILLIAM P. RUSSELL, BOX 778, ATLANTA, GA. • JOHN J. HALLISSY, 58 LIVINGSTON AVE., LOWELL, MASS.
IAN M. HALDANE & COMPANY, P. O. BOX 54, LONDON, ONT.





SINGLE-APRON SYSTEM

SHIRLEY SYSTEM, shown at left, is spinning 24s yarn. Sketch at right shows elements of new device.

The new Shirley high-draft is a single-apron system in which the apron passes round the original fluted bottom middle roller of the frame. In the accompanying diagram, the apron is shown, a, passing round this fluted roller, b, by which it is driven, and thence downwards to the floating tension roller, c.

The pivots, d, of the tension roller bear against the edges of the apron guide bracket, e, which serve to guide the apron centrally round the fluted boss of the bottom middle roller, b. The guide bracket, e, is fixed to the guide bar, f, which spans a group of spindles and which is mounted at each end on the roller slides.

Short pegs, g, project at right angles to the guide bar and serve as "stops" to the control element, h. This control element is, in the opinion of mill managers who have applied the new system, the most important feature of the design of the Shirley high-draft system.

Each control element, serving two spindles, consists of a polished hollow steel tube, the ends of which are plugged with crescent shaped end pieces, j, which bear against the pegs, g. It is this control element which, situated as it is in the main drafting zone, is responsible for control of fiber movement in the roving which passes under it. The top middle roller, k, is a conventional fast-boss roller, covered with leather or other suitable material.

A neck is cut in the existing iron back top roller, l, to serve as a bearing for the saddle, m, which spans the middle and back top rollers and is attached to the roller stands, so as to tension the spring and apply pressure to the middle and back top rollers. The existing hook and sash weight used for weighting the front roller is retained, as also, in general, are the top clearers, although in some instances fresh clips may be necessary in order to position the clearers suitably. In view of the comparatively wide front-middle roller setting of 1-15/16 in. used, new front-cap nebs are usually fitted.

Shirley HIGH-DRAFT Requires Little Setting

HIGHLIGHTS: *Easy to dismantle to clear laps—Designed for converting old frames—Roving twist may need to be reduced.*

ALTHOUGH IT HAS BEEN generally known that the British Cotton Industry Research Association at the Shirley Institute, Manchester, has been working for the past three or four years on a new high-draft spinning system, with its usual avoidance of publicity, the association has made no official announcement of progress. The new system has now, however, been perfected and is being installed in a number of Lancashire mills where its performance is reported to be extremely satisfactory.

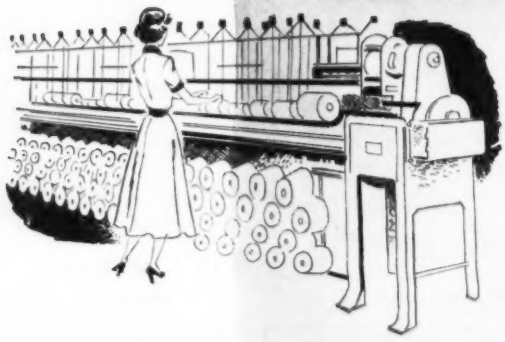
Mill comment on the new system is that it is simple in operation and can be dismantled quickly, with the minimum of skill, for cleaning and maintenance. Favorable comparisons are made between the new system and existing high-draft installations in which the mechanism is more complicated and difficult to dismantle when roller laps are to be cleared.

It has been found also in practice that, except in extreme cases, changes in roller setting to suit widely differing staple lengths, whether cotton or rayon, are very slight, or in many cases, unnecessary.

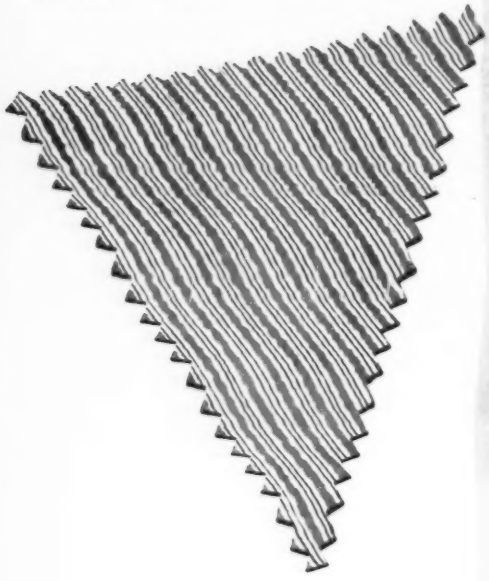
The break draft between the middle and the back lines of rollers is 1.17. Hardened steel spur wheels of suitable size are fitted to the middle and back bottom rollers, together with a "carrier" wheel which engages with them. The carrier wheel is mounted on the staghead type of bracket which incorporates rigidly mounted bearings for the middle and back rollers.

In designing the Shirley system, special attention has been paid to the strictly practical problems involved in converting ring frames to high draft. Thus, as many parts as possible have been made to standard sizes to serve a

(*Continued on page 188*)



ALUMINUM IS LIGHT.... ALUMINUM IS STRONG



Look where these facts

improve winding machines

Heavy metal is excess baggage on a winding machine. Moving parts of Alcoa Aluminum gain extra speed. Vibration is reduced. Aluminum's lightness saves power and bearing wear . . . aluminum's strength pares excess material from machine parts.

Buying textile machines? Think of another bonus from light weight aluminum. Less machines do the same amount of work. You gain extra floor space for future expansion.

If you build textile machines, let Alcoa's Development Division help you with alloy selection, design and fabrication problems. Write ALUMINUM COMPANY OF AMERICA, 1912G Gulf Bldg., Pittsburgh 19, Pa.

ALCOA

ALUMINUM • MAGNESIUM

INGOT • SHEET & PLATE • SHAPES, ROLLED & EXTRUDED • WIRE • ROD • BAR • TUBING • PIPE • SAND, DIE & PERMANENT MOLD CASTINGS • FORGINGS • IMPACT EXTRUSIONS
ELECTRICAL CONDUCTORS • SCREW MACHINE PRODUCTS • FABRICATED PRODUCTS • FASTENERS • FOIL • ALUMINUM PIGMENTS • MAGNESIUM PRODUCTS

Yards per pound

Yield ↓	WIDTH →																			
	20"	22"	24"	26"	28"	30"	32"	34"	36"	38"	40"	42"	44"	46"	48"	50"	52"	54"	56"	58"	60"
5.00	4.35	4.16	3.85	3.57	3.33	3.12	2.94	2.78	2.63	2.50	2.38	2.27	2.17	2.08	2.00	1.92	1.85	1.79	1.72	1.67
5.25	4.77	4.37	4.04	3.75	3.50	3.28	3.09	2.92	2.76	2.62	2.50	2.39	2.28	2.19	2.10	2.02	1.94	1.87	1.81	1.75
5.50	5.00	4.58	4.23	3.93	3.67	3.44	3.24	3.06	2.89	2.75	2.62	2.50	2.39	2.29	2.20	2.12	2.04	1.96	1.90	1.83
5.75	5.23	4.79	4.42	4.11	3.83	3.59	3.38	3.19	3.03	2.87	2.74	2.61	2.50	2.40	2.30	2.21	2.13	2.05	1.98	1.92
6.00	5.45	5.00	4.62	4.29	4.00	3.75	3.53	3.33	3.16	3.00	2.86	2.73	2.61	2.50	2.40	2.31	2.22	2.14	2.07	2.00
6.25	5.68	5.21	4.81	4.46	4.17	3.91	3.68	3.47	3.29	3.12	2.98	2.84	2.72	2.60	2.50	2.40	2.31	2.23	2.16	2.08
6.50	5.91	5.42	5.00	4.64	4.33	4.06	3.82	3.61	3.42	3.25	3.10	2.95	2.83	2.71	2.60	2.50	2.41	2.32	2.24	2.16
6.75	6.14	5.62	5.19	4.82	4.50	4.22	3.97	3.75	3.55	3.37	3.21	3.07	2.93	2.81	2.70	2.60	2.50	2.41	2.33	2.25
7.00	6.36	5.83	5.38	5.00	4.67	4.38	4.12	3.89	3.68	3.50	3.33	3.18	3.04	2.92	2.80	2.69	2.59	2.50	2.41	2.33
7.25	6.59	6.04	5.58	5.18	4.83	4.53	4.26	4.02	3.82	3.62	3.45	3.30	3.15	3.02	2.90	2.79	2.68	2.59	2.50	2.41
7.50	6.82	6.25	5.77	5.36	5.00	4.69	4.41	4.16	3.95	3.75	3.57	3.41	3.26	3.12	3.00	2.88	2.78	2.68	2.59	2.49
7.75	7.05	6.46	5.96	5.54	5.17	4.85	4.56	4.30	4.08	3.87	3.69	3.52	3.37	3.23	3.10	2.98	2.87	2.77	2.67	2.58
8.00	7.27	6.67	6.15	5.71	5.33	5.00	4.71	4.44	4.21	4.00	3.81	3.64	3.48	3.33	3.20	3.08	2.96	2.86	2.76	2.66
8.25	7.50	6.87	6.35	5.89	5.50	5.16	4.85	4.58	4.34	4.12	3.93	3.75	3.59	3.44	3.30	3.17	3.06	2.95	2.84	2.74
8.50	7.73	7.08	6.54	6.07	5.67	5.32	5.00	4.72	4.47	4.25	4.05	3.86	3.70	3.54	3.40	3.27	3.15	3.04	2.93	2.83
8.75	7.95	7.29	6.73	6.25	5.83	5.47	5.15	4.86	4.61	4.37	4.17	3.98	3.80	3.65	3.50	3.37	3.24	3.12	3.02	2.92
9.00	8.18	7.50	6.92	6.43	6.00	5.62	5.29	5.00	4.74	4.50	4.29	4.09	3.91	3.75	3.60	3.46	3.33	3.21	3.10	3.00
9.25	8.41	7.71	7.12	6.61	6.17	5.78	5.44	5.14	4.87	4.62	4.40	4.20	4.02	3.85	3.70	3.56	3.43	3.30	3.19	3.08
9.50	8.64	7.92	7.31	6.79	6.33	5.93	5.59	5.28	5.00	4.75	4.52	4.32	4.13	3.96	3.80	3.65	3.52	3.39	3.28	3.17
9.75	8.86	8.12	7.50	6.96	6.50	6.09	5.73	5.42	5.13	4.87	4.64	4.43	4.24	4.06	3.90	3.75	3.61	3.48	3.36	3.25
10.00	9.09	8.33	7.69	7.14	6.67	6.25	5.88	5.56	5.26	5.00	4.76	4.55	4.35	4.17	4.00	3.85	3.70	3.57	3.45	3.33
10.25	9.32	8.54	7.88	7.32	6.83	6.41	6.03	5.69	5.39	5.12	4.88	4.66	4.46	4.27	4.10	3.94	3.80	3.66	3.53	3.41
10.50	9.55	8.75	8.08	7.50	7.00	6.56	6.18	5.83	5.53	5.25	5.00	4.77	4.57	4.37	4.20	4.04	3.89	3.75	3.62	3.50
10.75	9.77	8.96	8.27	7.68	7.17	6.72	6.32	5.97	5.66	5.37	5.12	4.89	4.67	4.48	4.30	4.14	3.98	3.84	3.71	3.58
11.00	10.00	9.17	8.46	7.86	7.33	6.88	6.47	6.11	5.79	5.50	5.24	5.00	4.78	4.58	4.40	4.23	4.07	3.93	3.79	3.66
11.25	10.23	9.37	8.65	8.04	7.50	7.03	6.62	6.25	5.92	5.62	5.36	5.11	4.89	4.69	4.50	4.33	4.17	4.02	3.88	3.74
11.50	10.45	9.58	8.85	8.21	7.67	7.19	6.76	6.39	6.05	5.75	5.48	5.23	5.00	4.79	4.60	4.42	4.26	4.11	3.97	3.83
11.75	10.68	9.79	9.04	8.39	7.83	7.35	6.91	6.53	6.18	5.87	5.60	5.34	5.11	4.90	4.70	4.52	4.35	4.20	4.05	3.92
12.00	10.91	10.00	9.23	8.57	8.00	7.50	7.06	6.67	6.32	6.00	5.71	5.45	5.22	5.00	4.80	4.61	4.44	4.29	4.14	4.00
12.25	11.14	10.21	9.42	8.75	8.17	7.66	7.20	6.81	6.45	6.12	5.83	5.57	5.33	5.10	4.90	4.71	4.54	4.37	4.22	4.08
12.50	11.36	10.42	9.62	8.93	8.33	7.81	7.35	6.94	6.58	6.25	5.95	5.68	5.43	5.21	5.00	4.81	4.63	4.46	4.31	4.17

YIELD CHART
Gives Knitting Data

By MAX MIZEL

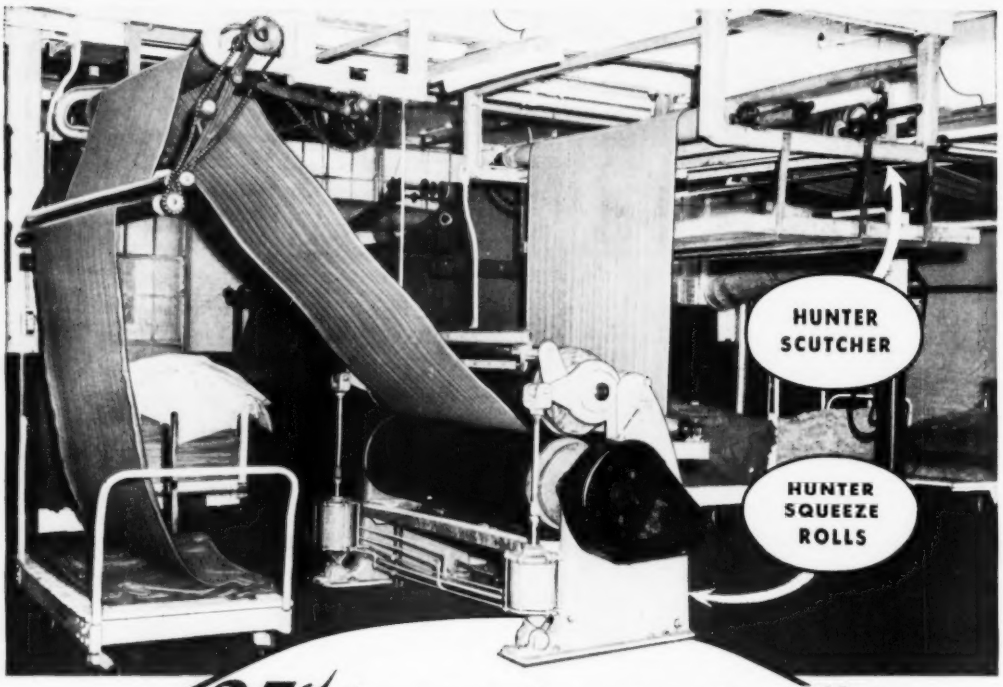
A KNITTED-FABRIC YIELD CHART which instantly shows yd.-per-lb. yield at different widths has been drawn up for use by designers and production men. The new chart eliminates the figuring of cloth weights by the formula method, used with the aid of a calculator or slide rule.

To use the chart, it is necessary to know only the width and weight of a sample of the particular construction. From this information, the yield of a similar cloth at any width can be seen immediately.

Assuming a 36-in. fabric yields 3.75 yd. per lb., one can run his eye along the same horizontal line to the 50-in. column. The figure at this point, 2.70, is the yield of the same cloth construction 50 in. wide instead of the original 36 in.

Single copies of this yield chart are obtainable for the asking by subscribers of TEXTILE WORLD. Quantities will be supplied at nominal cost.

Copyright 1949 by Max Mizel. Printed by permission.



...up to 35% *increase* in extraction efficiency

When a plant seeks greater and more uniform extraction of moisture from all woven fabrics, the economical solution will be found in the Hunter Model G, pneumatically controlled, squeeze rolls, similar to those pictured above recently installed at the Packard Mills. To assure continuous or straight line production, the Model G may be used in combination with a scutcher, in continuous cloth carbonizing or washer lines, on tracks in wet finishing rooms, or as a separate unit. It is adaptable to any woven fabric, either flat or pile type, on cottons, rayons, woolens, worsteds, and blended or manipulated fabrics. As much as 35% better moisture extraction has been proved in tests when the Model G has competed against vacuum extractors running at the same speeds on the same goods. The Model G requires less horsepower to operate than any other extraction equipment. For example: 5 to 7½ H.P. for the Model G against 20 H.P. for the average vacuum extractor. Orders and re-orders from modern mills throughout the country are proof of Model G performance and economy.

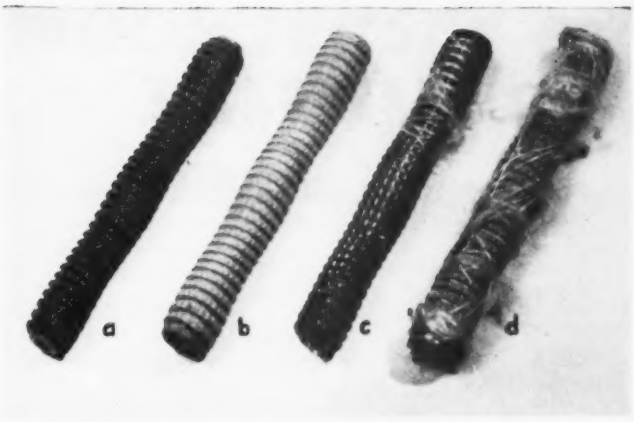
Write for Bulletin SRR. It contains complete details, drawings and photos of Model G squeeze rolls and scutchers.

BUILT BY HUNTER — JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS MASS — IT'S DEPENDABLE

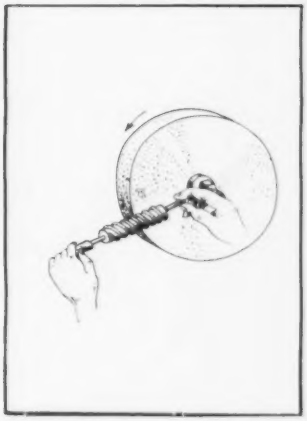
D. L. Raedel, 1936 West Lake Street, Chicago, Ill.
S. Alex Dalghren, Ivyland, Bucks County, Pa.
J. Everett Burdick, Grayson Lane, Newton Lower Falls, Mass.
E. G. Paules, 1762 West Vernon Avenue, Los Angeles, Calif.
Rudel Machinery Company, Ltd., Canada

Hunter

JAMES HUNTER MACHINE CO., NORTH ADAMS, MASS. FOUNDED 1847.



GOOD AND BAD temple rolls. Rolls a and b have been cleaned and sanded off. Roll a still has good gripping power and can be used on any rayon weave. Roll b should be used only where narrowing is not a problem. Roll c is ineffective because of imbedded waste and size. Roll d is choked with waste.

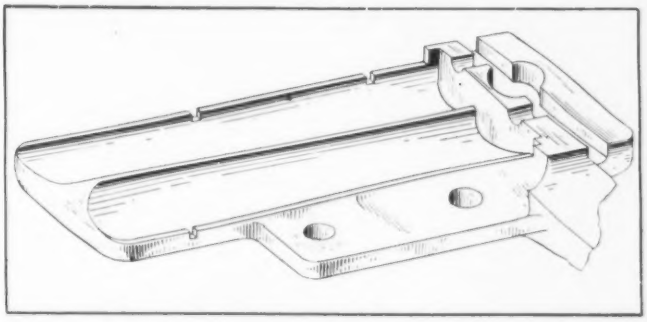


TEMPLE-ROLL SURFACE can be made to grip again by grinding the surface on a sanding disk. Smooth surfaces deprive rolls of most of their value.

WARPWISE DEFECTS
May Be Caused by Temples

HIGHLIGHTS: *Defective temple rolls may cause barre marks, cloth narrowing, or loom stops — Chokes and slick surfaces make rolls useless —Many rolls can be corrected and used again.*

By ALBERT FRANTZ



LENGTHWISE STREAKS may be caused by rigid temple ends. Filling in nicks and sanding off rough places will stop the streaks.

THE GREATER NUMBER of looms on rayon and other synthetic fabrics has increased the use of temples. On many silk and spun-silk fabrics, temples were unnecessary. But on their rayon counterparts, it is necessary to keep the cloth width as near reed width as possible during weaving.

Barré marks along the sides of the woven cloth are often caused by loose warp yarn along the beam flanges. If temples are adjusted as well as possible to hold the cloth out to near reed width, loose warp yarn along the sides will leave a short barré mark. Such a mark may have an appearance very similar to temple fillingwise marks. [T.W. June, '49, p. 135].

However, besides the barré defect, there are other equally serious defects relating to the temple. On some weaves, if rolls fail to turn or to hold the cloth out to the desired width, narrowing of the cloth can result in rejects. On rayon, such narrowing of the cloth may cause selvage breaks and loom shut-downs. It is obviously important to keep cloth out as near the reed width as possible.

In the past, of course, pin temple rolls were used on many weaves, including sheer chiffon and other delicate constructions. Pin rolls frequently were the cause of many defective pieces, especially cloth with small holes pricked in it by bent pins or hooked pin points.

RUBBER ROLLS. These defects have been eliminated by the use of rubber temple rolls. Although pin rolls are still in use on certain cotton and wool fabrics, for the usual run of rayons and silks rubber rolls have become standard.

As with other movable objects, rub-

(Continued on page 192)

One Source for *DEPENDABLE*

BASIC CHEMICALS

GC

FOR AMERICAN INDUSTRY ©

dyeing assistants

antichlors

detergents

Select Your

Basic Textile Chemicals

From This List

- Glauber's Salt, Anhydrous & Crystal
- Sulfuric Acid
- Acetic Acid
- Aqua Ammonia
- Hydrochloric Acid (Muriatic)
- Muriatic Acid
- Tetrasodium Pyrophosphate, Anhyd.
- Sodium Metasilicate
- Sodium Sulfide
- Sodium Sulfite, Anhydrous
- Sodium Bisulfite, Anhydrous
- Oxalic Acid
- Sodium Silicate
- Aluminum Chloride, Solution
- Disodium Phosphate, Anhydrous
- Nitre Cake (Sodium Bisulfate)
- Trisodium Phosphate
- Sodium Hyposulfite (Sod. Thiosulfate)
- Aluminum Sulfate
- Lead Acetate
- Mixed Acid
- Epsom Salt
- Chrome Alum
- Ferric Sulfate (Iron Copperas Nitrate)
- Ferric Nitrate (Iron True Nitrate)
- Ammonia Alum
- Potash Alum
- Ammonium Sulfate

Specify

"GENERAL CHEMICAL"

50 YEARS OF SERVICE

GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y.

Offices: Albany • Atlanta • Baltimore • Birmingham • Boston • Bridgeport Buffalo • Charlotte • Chicago • Cleveland • Denver • Detroit • Houston Kansas City • Los Angeles • Minneapolis • New York • Philadelphia Pittsburgh • Portland (Ore.) • Providence • San Francisco • Seattle St. Louis • Wenatchee and Yakima (Wash.)

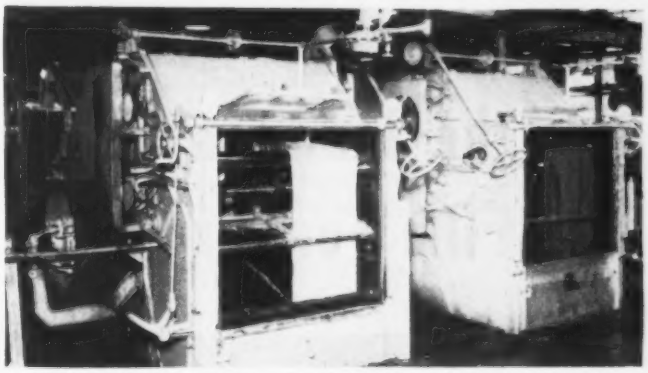
In Wisconsin: General Chemical Company, Inc., Milwaukee, Wis.

In Canada: The Nichols Chemical Company, Limited
Montreal • Toronto • Vancouver

WOOL JERSEY Finishing Calls for Special Techniques

HIGHLIGHTS: *Definite division exists between cotton-type and wool-type jersey-finishing plants — Wool lots smaller than cotton—Trend may develop away from use of glauber salt in dyeing — Close cooperation needed between dyer and finisher.*

By IRVING TEPLITZ



***FULLING** is the most important operation in the finishing of knitted woolen fabrics.*

THE PLANT EQUIPPED to bleach, dye, and finish cotton, rayon, and acetate circular-knit jersey cloth is often asked if it can handle wool jersey. To the outsider, it would seem an easy matter to add wool jersey to the cotton fabric knitted, dyed, finished, and even cut and sewn into garments at the plant. There is, however, a definite line of demarcation between those plants handling cotton and rayon fabrics, and those handling wool, whether woven or knitted. With the introduction of various blends of cotton and wool, rayon and wool, and cotton-backed wool cloths, these fabrics are being handled by both cotton-and-rayon organizations and strictly wool concerns, depending upon the relative percentages of fibers. The point of division is blurred at about 50% wool content, with the cotton-and-rayon plants handling cloths having under 50% wool, and the wool mills processing cloths with over 50% wool content.

White, as a color of wool jersey, has about the same volume of production as any other wool color; while in cotton jersey at least 85% of all cloth is bleach white, and in rayon and acetate circular-knit jersey at least 85% of the volume is in shades of tearose and nude. Being an outerwear cloth, wool jersey depends upon the whims and moods of dress style, fashion, and season of the year for its production volume. Some wool jersey cloths are made with varying percentages of rabbit hair and other minor fibers classified as wool. Some of the wool-jersey striped cloths are yarn-dye fabrics with beautiful color harmony and texture.

Equipment needed for dyeing and finishing wool jersey is: washers, fulling machines, dye kettles, extractor or squeeze-roll, dryer, knit-goods finishing calender, and perhaps a decater or semi-decater. The dye kettles are the usual dye beck or dye box, but should be rather deep, the deeper the better. One dye lot a day is the usual production in wool-jersey dyeing, compared to two or three dye lots of cotton-rayon jersey dyeing. The number of pieces of wool jersey to a dye lot are usually few, from two to five pieces. This small amount is due to the period of time spent in wet-finishing processes other than dyeing: washing or scouring, fulling, carbonizing, or speck dyeing. Most of the equipment needed for wool jersey is not found in the cotton-rayon circular-knit dyeing and finishing plant; hence, new capital investment and a rearrangement of equipment in the plant layout is in order.

VOLUME. There is a substantial difference in possible machinery needed and applicable in a plant anticipating a large volume of wool jersey business and in one expecting less, principally that difference of the in-and-out seasonal operation customarily identified with the wool jersey field. As far as is known, there is no plant handling wool jersey and knitted overcoating fabrics that is set up with the latest, streamlined, continuous-type dyeing and finishing machinery like that found today in the most modern wool plants handling woven fabrics.

There is also an important distinction to be made between those concerns which manufacture their own wool-jersey yarn and those who purchase theirs in the open market. Those mills which control the yarn manufacture are in a better position to control the quality of the finished product and to institute labor-saving and cost-saving devices and methods. One such example of quality control is the use of a wool-fiber lubricant in spinning which possesses remarkable wetting and detergent properties for scouring and fulling. The integrated concern would readily use such a lubricant, while it would be a matter of chance for the knitter to find it in yarn purchased in the open market. It would be an undesirable risk to assume the presence of such material in purchased yarn when scouring the knitted fabric.

DYEING. Acid dyes are used for dyeing wool jersey, as they have the fastness suitable for the end-use of the cloth. Glauber salt and an acid—acetic, formic, or sulphuric—is used with the acid dye. Salt is formed when wool is colored by acid dye. Glauber salt and the acid are necessary for the formation of the color and its rate of formation. The presence of glauber salt retards the dyeing process, while the acid is necessary to exhaust the dyestuff. An increase in the temperature of the bath and in the concentration of the acid speeds up the rate of dyeing. The usual procedure for dyeing wool with acid colors is to enter the required amount of dyestuff, 10% glauber salt by weight of goods, and a specified amount of the acid to the dyebath; circulate the bath; enter the goods at 105°; and

(*Continued on page 196*)

Methocel:

the Indispensable Film Former

Do you need *better* film properties? Try the *new* Methocel, *powdered*. The new powdered form now makes it easy to handle Methocel in process. Methocel can now be dry-mixed with other ingredients or added as a water solution.

For the textile manufacturer, Methocel's film forming properties offer superior advantages. The tough, flexible film formed by Methocel makes it particularly valuable, used as the sole sizing agent or as a size modifier. Methocel reduces abrasion, minimizes friction and reduces loom stoppage.

Methocel offers other outstanding properties, highly useful in the production of textiles. Since it is an excellent thickener, Methocel is valuable in the formulation of printing pastes.

Send for your *free* experimental sample of the *new* Methocel, *powdered*. Just fill out the coupon below.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

THE new *methocel*

DID YOU GET YOUR SAMPLE?

The Dow Chemical Company
Dept. ME 182A
Midland, Michigan

Please send free sample of METHOCEL, for use in _____

Check viscosity desired: 15, 25, 100, 400, 1500, 4000 cps.

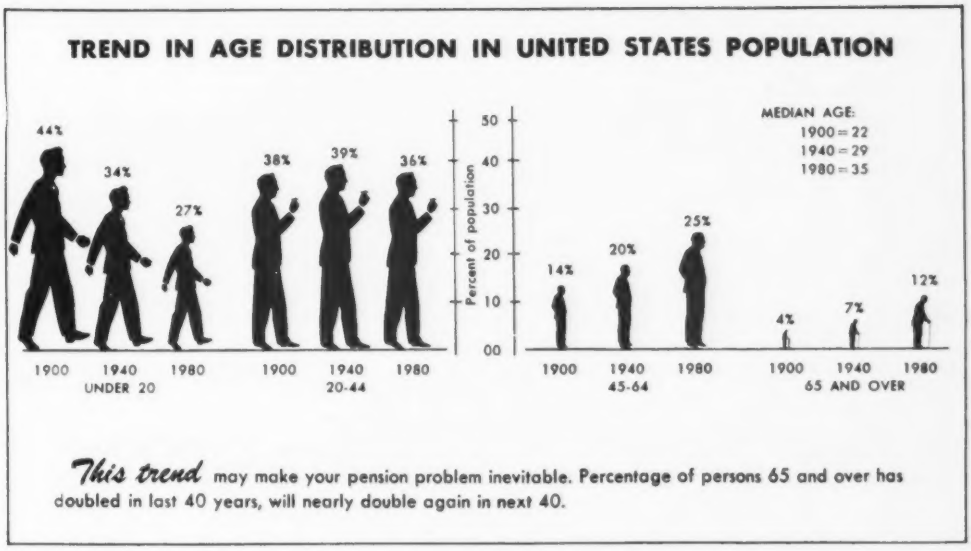
Name and Title _____

Firm _____

Address _____

DOW

CHEMICALS INDISPENSABLE
TO INDUSTRY AND AGRICULTURE



Why a PENSION PLAN?

HIGHLIGHTS: *Reduced employee turnover and population age trends make pension problem inevitable—Cost not based on all employees reaching retirement age—Key employees benefited—Proper plan can lighten company tax load.*

By MEYER M. GOLDSTEIN
Executive Director, Pension Planning Co. New York, N. Y.

STATISTICS ON POPULATION TRENDS (see chart) and lowered employee turnover due to improved working conditions indicate that the problem of establishing an employee pension plan will inevitably be faced by textile-mill operators. Careful analysis of all factors concerned further indicates that sound reasons underlie consideration of such a plan. It can be shown that a company which has no pension plan may be paying for it anyway in other ways. In addition, establishment of a plan can provide returns in employee loyalty and morale as well as in a lightening of the company tax burden.

Improvements in working conditions and increased wages in recent years have undoubtedly tended to lessen employee turnover. This reduced turnover will be reflected in a gradual ageing of the work force, so that it is merely a question of time until the employer will be faced with the problem of what to do with long-service, aged, and sometimes inefficient employees.

An analysis of the earnings of employees classified according to age and length of service shows that older workers with longer service generally receive higher compensation than employees as a whole. If John Jones does not receive pay increases, he will either become discouraged and leave the job, or the management will let him go because John's characteristics are such that he does not merit a pay increase and is therefore undesirable. Thus, the older employees who have served for many years are those who have exhibited the best qualifications and have been steadily promoted to higher-paid jobs carrying greater responsibilities. It follows, therefore, that a pension plan covering all regular employees, but which provides pensions only to those who stay, will almost certainly provide pensions for employees who on the average are paid the most.

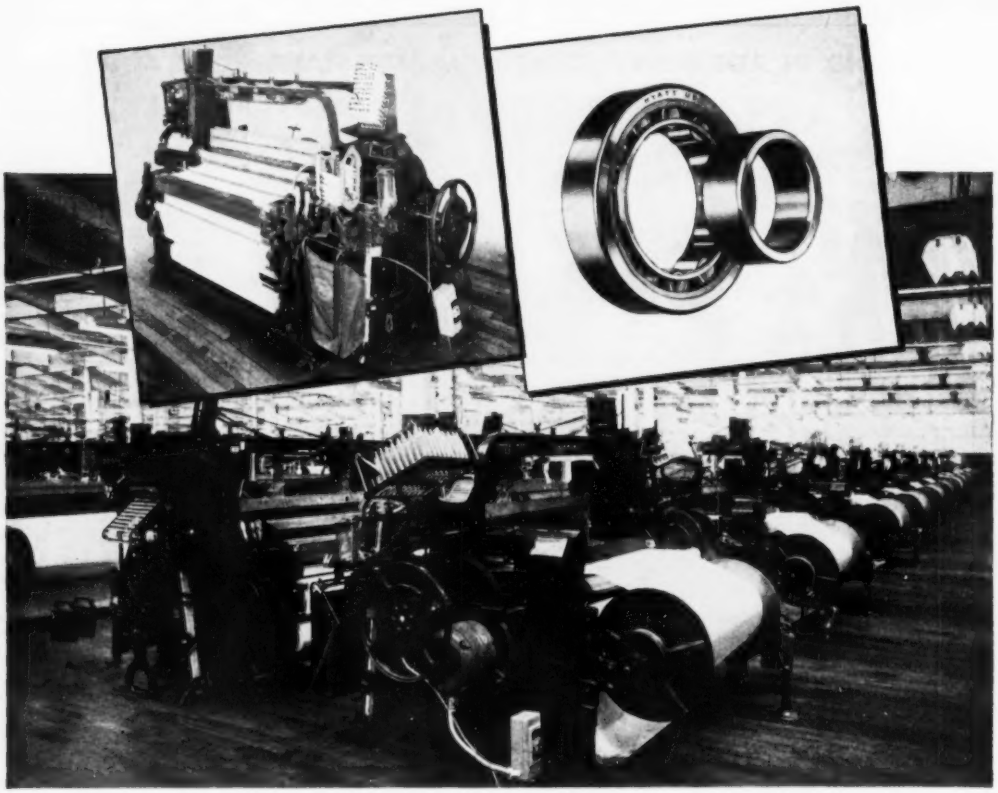
This situation is as it should be, because retirement of employees at the

(*Continued on page 208*)

Survey Shows Few Pension Plans Maintained By Textile Mills

A recent survey of pension plans in textile mills, covering 898 establishments, indicated that only 60 had established employee-pension plans. Of these 60, 42 were formal, funded plans; three were formal but unfunded; six were informal, unannounced programs; and nine were not described. Of the 51 plans on which details were obtained by the survey, only 28, or 56%, covered all regular employees, and 22, or 50%, of the 44 funded plans include employee contributions.

A copy of the survey, giving full details of pension plans maintained by 51 companies, may be obtained by writing Editor, TEXTILE WORLD, 330 West 42nd St., New York 18, N. Y.



Running Up Production Records With Hyatt-Equipped C&K S-6 Looms

At the important bearing positions in the Crompton & Knowles S-6 Loom, dependable HYATT ROLLER BEARINGS are helping to produce more and better cloth at lower cost.

With no time out for bearing repair or care, very infrequent lubrication is all these precision-made roller bearings require to provide long, profitable performance.

Thousands of Crompton & Knowles Rayon, Woolen and Worsted Looms equipped with Hyatt Roller Bearings have been operating for many years without bearing trouble or replacement—setting enviable low cost production records. Let us tell you more. Hyatt Bearings Division, General Motors Corporation, Harrison, N. J.

HYATT ROLLER BEARINGS

When Using Diazotized and Developed Direct Dyes:

Problems involved:	*Remedies used:*
1. Proper coupling of dye with developer.	1. Sustained low temperature during diazotization.
2. Ultraviolet light reaction on freshly diazotized goods.	2. Keeping goods out of direct sunlight.
3. Wet-fading.	3. Drying well all dyed goods that are to be discharged later.
4. Mark-offs.	4. Equal tension between fabric and back-gray, with continuity of processing.
5. Facing of grounds.	5. Pretreatment of grounds with solution of any stable oxidizing agent.
6. Film on rollers.	6. Careful polishing and burnishing of rollers.

Causes of Faulty White Discharges:

1. Dye mixtures requiring neutral and alkaline discharges at same time.
2. Goods lying too long in humid atmosphere before steaming.
3. Delay in washing off.
4. Poor diazotization and development, causing bleeding.
5. Insufficient reducing agent in the discharge paste.
6. Poor engraving of rollers.
7. Insufficient steaming.

Clean White Effects Attainable In DISCHARGE PRINTING

HIGHLIGHTS: *Diazotized and developed direct dyes are used when washability of fabric is needed—Wet-fading, mark-offs, and facing can be avoided if care is used—Poor engraving of rollers and insufficient steaming will cause trouble.*

By T. N. PATRICK

NUMEROUS DIFFICULTIES are likely to arise in the production of white- and color-discharge styles on dyed grounds in textile printing, but they are not unsurmountable.

In all discharge styles, the aim is the production of level-dyed grounds as fast to light and washing as possible, and easily dischargeable to a pure white. For most purposes, the diazotized and developed direct dyes are used, especially where the goods are likely to be subject to laundry treatments, as in hankerchiefs and dress goods. For lighter shades, the fast-to-light direct dyes with water-washing fastness, increased by after-treatment of the dyes with cationic substances, have found extensive application. The latter types in particular are widely used in dress goods and on spun-rayon fabrics.

GROUNDS. Although the use of dyes that alone give a pure white discharge somewhat limits the range of dyes available, diazotized and developed grounds widen the scope of the printer in the production of white and colored effects. In such cases the white is purer and the color effects much clearer.

In diazotizing and developing processes, a low temperature is essential to the completion of the diazotization of the dyestuff prior to development. However, where the temperature is allowed to rise, even slightly, in a very sensitive dye, the reaction is interfered with; and proper coupling with the developer cannot take place. Such rise in temperature may be the result of a leaky steam valve or carelessness in not cooling the solution sufficiently.

In addition, a second cause of trouble is the reaction of ultraviolet light from strong sunlight on the freshly diazotized goods. In one instance where goods were being processed on a dye kettle, and the folds of the cloth were lying in the path of sunlight rays, the diazotizing reaction was interfered with to such an extent that light streaks appeared throughout the dyeing. The shape and nature of the streaks indicated clearly the cause of the trouble; for the portions of the cloth covered by the folding over of the material in rope form remained unaffected and were completely developed to the full shade, while those portions which were exposed to the action of sunlight were not.

Another instance of the action of sunlight on diazotized and developed dyes arose in a case of "wet fading." Fading of dyestuffs will take place rapidly in the presence of moisture. In particular cases, where the fastness to light is of the order of 2 to 3, for example, on the usual grading standards, exposure to sunlight while the goods are still damp may bring about serious loss of depth in shade.

In this case, goods were dyed with a well known diazotized and developed scarlet, to be afterwards discharged to a pure white. The cloth was left in a half-dry condition over the weekend, during which time it was exposed to the action of strong sunlight. Serious fading took place along the edges of the pieces in the pile; and on final drying out the selvages on one side, up to a depth of 3 to 4 in. in some parts, were so seriously faded as to require stripping and redyeing. This fading would not have occurred if the goods had been thoroughly dried and suitably covered to protect them from the action of sunlight.

INFLUENCE OF STEAM. In the production of white discharges on diazotized and developed grounds, the discharge effect is the result of the action of producing substances contained in the print paste under the influence of steam. This reaction brings about the destruction of the N:N group in the diazotized-dyed grounds, and causes the formation of soluble amido-naphthols which are subsequently rinsed out in washing to leave pure white grounds or printed discharge effects.

Poor whites seem to be more likely

WILDMAN

Single-head, Single-unit, Full-fashioned HOSIERY MACHINE

A SHINING LIGHT IN THE STOCKING INDUSTRY

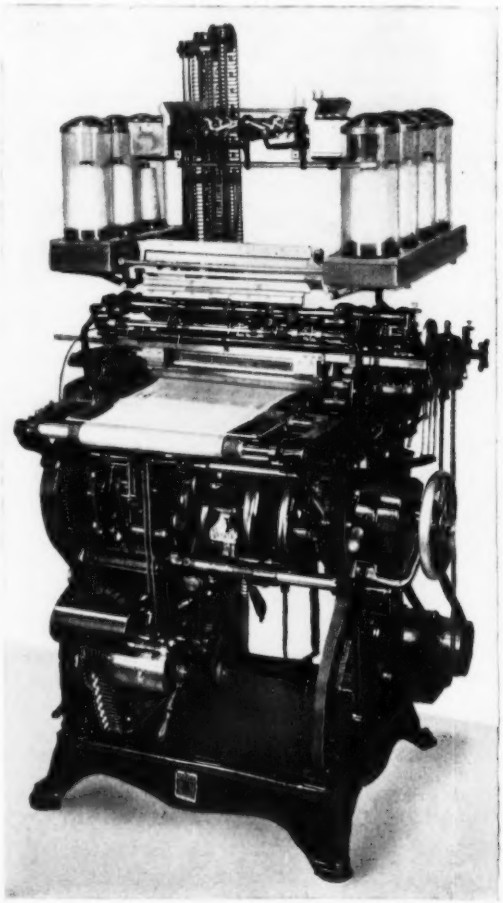
A machine that is shipped COMPLETE and starts knitting stockings a few hours after reaching your mill. No weeks or months of delay in assembling, etc.

A single-head machine that knits the complete stocking, perfect from top to toe, in one operation.

A machine that makes stockings of the finest gauges in silks, in nylons, cottons, synthetics, etc. in any locality, on any day in the year because it is totally unaffected by atmospheric conditions or temperature changes.

A machine that will increase your volume and boost your quality.

WILDMAN MFG. CO.
Norristown, Pa.



to occur in browns, especially in dark shades; and, in particular, where slightly alkaline discharges are used. This latter point should be carefully checked when a choice of a particular dye has to be made on the basis of fastness. Manufacturers' information will usually indicate whether a neutral or alkaline discharge is better in a particular case. In every instance, especially where mixtures of dyes have to be used to obtain a special shade, preliminary trials should be made in order to settle the point as to whether a neutral or alkaline discharge should be used.

It is plain that such difficulties are increased when using the insoluble azo types of dyes where strong alkaline discharges are required, and where severe aftertreatments are necessary to produce a clear white effect.

Poor discharges may also result from allowing the goods to lie too long in a warm, humid atmosphere before steaming. This negligence will allow partial decomposition of the discharging agent and consequent loss of reducing power during steaming. Care should also be taken to avoid delay in washing off, as such delay allows time for the partial oxidation of the soluble amido-naphthols which have been formed during reduction. Once these bodies have been oxidized (which oxidation, incidentally, takes place very rapidly in the alkaline condition), they are almost impossible to remove by any known method of aftertreatment. As a result, the white discharge effects are permanently tinged.

In addition to unsuitable dyes and the bad practices which have already been mentioned, another cause of poor white effects is bleeding of the dyestuff during wet aftertreatment. Here again the fault may lie in poor diazotization and development, with insufficient formation of the true developed color. This poor development results in a certain surplus of soluble dyes which washes into the white effects during wet treatment and produces tinging of the type under discussion.

"MARKING OFF." Owing to the nature of the reaction which occurs, "marking off" is likely to happen at almost any stage of processing unless constant care is exercised. The main point in handling the goods is to maintain continuity of processing, so that the goods are not allowed to lie in a pile at any stage.

In actual printing by engraved copper rollers, "marking off" may occur as the result of differing tension between the fabric and the backgray during passage through the printing machine and equipment. Where tensions differ very much, the printed piece may be stretched in such a way that it tends to "lead" the backgray. Where the two have to proceed together over rollers or drying equipment for any distance, this "leading" will result in a movement which will displace the printed piece in relation to the backgray. It is plain that the unprinted portions of the piece will then come into contact with the still damp impressions of the discharge paste which have been left on the backgray as the result of penetration of the print paste through the fabric. As a result, there will be "marking off" at these portions. This defect may be easily recognized by the lateral displacement of the pattern on the back of the piece. In very fine fabrics this displacement will show through to the face of the fabric as well. For similar reasons, any creases formed during printing will cause "marking off" problems.

After printing, especially where the discharge effects are fairly heavy, and on light or medium-weight cloths, every care should be taken to have the goods steamed as soon as possible. Otherwise the reducing agent, which is hygroscopic by nature, will draw moisture, and under the influence of steam may cause a slight discharge effect at point of contact of the print paste with the unprinted portions of the fabric. For the same reason, it is essential to make quite certain of the complete drying out of the goods being printed. In such cases, it is better to over-dry than to under-dry.

"FACING." Another common problem in all white discharge printing is "facing" of dyed grounds. It can be prevented only by pre-treatment of the dyed grounds with a solution of a resist or reserve salt in the form of a mild oxidizing agent, like the sodium salt of m-nitrobenzene-sulphonic acid. Where this type of reagent is not available, a very weak solution of any stable oxidizing agent will serve the purpose, such as sodium chlorate $NaClO_3$—about ¼ to ½ oz. per gal. Where the resist-salt type of preparation is used, a solution of 2 to 4 oz. per gal. will be required, according to the depth of the ground and the strength of the discharge-print paste. It is usually better to use a strong resist salt or other preparation with a fairly strong discharge than to use a weak discharge with the intention of avoiding "facing" or "scumming." In the latter case, the use of a comparatively weak discharge results in the production of poor white effects; and, if "facing" is likely as a result of a faulty print paste, the use of a weak preparation liquor will not eliminate the trouble.

It is obvious that the preparation of the print paste is a very important part of process, and care should be taken to have all print pastes thoroughly filtered through several fine cotton straining cloths before forwarding to the print shop. For the same reason, when pigment white is used in the form of titanium dioxide, TiO_2, it should be used only in a finely ground form.

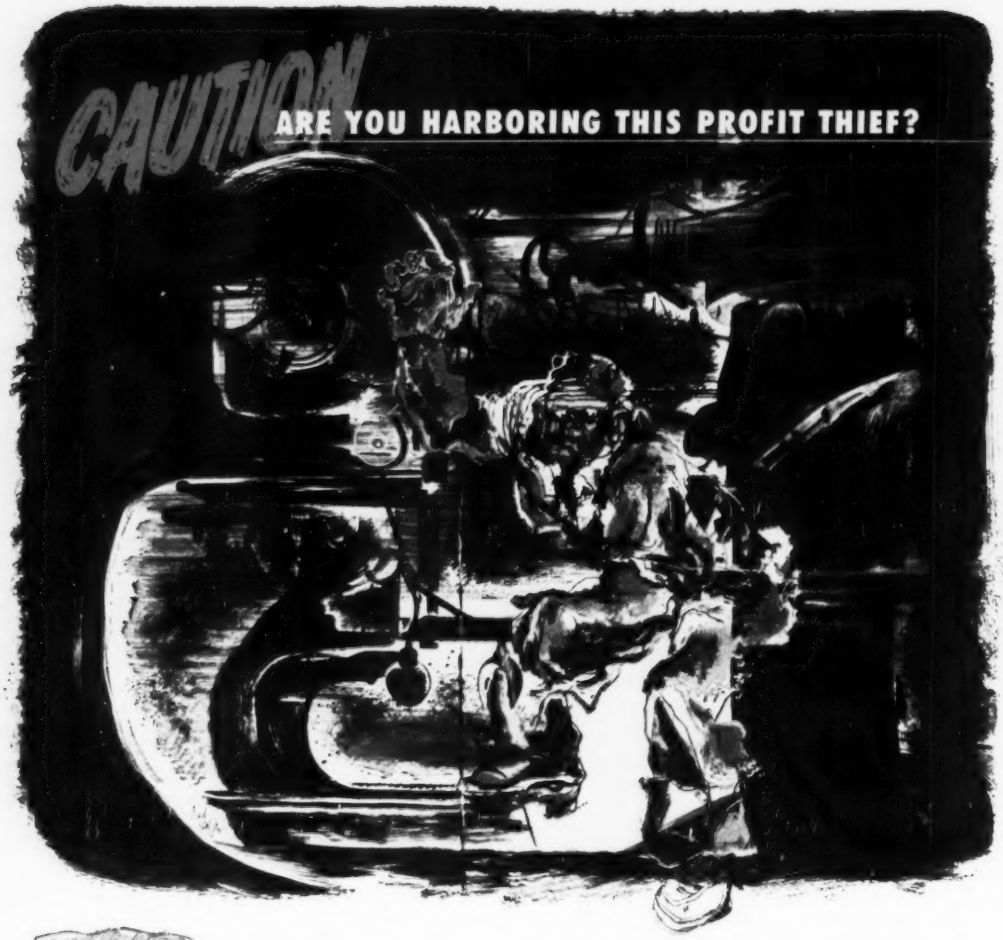
Before printing, all rollers should be very carefully polished and burnished to reduce the formation of "film" on the roller. It is common knowledge that engraved printing rollers carry on their unengraved surfaces a very slight film of print paste. When the roller surface has been allowed to deteriorate, this film will naturally be heavier than when the surface has been kept highly polished. Where very large runs of prints are contemplated, the expense of chromium plating is fully justified; for chromium plating gives a hard, highly polished surface to the rollers and considerably reduces the danger of "facing."

REDUCING AGENTS. The amount of reducing agent required in any particular instance should only be decided upon after preliminary trials. With very light fabrics, an amount of reducing agent will be sufficient to produce a pure white discharge which would be quite inadequate in a heavier-type fabric. The main reason here is that the heavier fabric requires a larger amount of print paste for its saturation. Therefore the proportion of reducing agent for the same weight of pattern must be correspondingly increased. This effect is shown clearly in a comparison of engraved-roller printing with silk-screen printing. It will be found that the same discharge print paste applied on the same material by these two methods will produce widely different results. The reason is that several times the amount of print paste is applied by screen as is by rollers.

A way of dealing with this problem in roller printing is to increase the amount of print paste applied by increasing the depth of the engraving on the rollers for heavier fabrics. For good discharge effects on heavier fabrics, it is necessary to aim at thorough penetration of the fabric by the print paste, even at the expense of slight flushing of the design. This latter effect can, of course, be foreseen, and the engraving suitably modified to reduce the size of the pattern and allow for subsequent flushing in printing and steaming.

STEAMING. To bring about activation of the reducing agent and production of the discharge effect on dyed grounds, passage of the goods through

(Continued on page 184)



He's as sly and treacherous as a trained saboteur – robbing and stealing valuable production from thousands of machines in thousands of plants. His total "take" is tremendous – but he *can* be stopped!

Even though you may think he's not at work in *your* plant, it will pay you to be suspicious enough to make *sure* – for he's often well disguised.

HERE ARE SOME *QUICK CLUES*

Are you still using out-dated "paddle" methods to fill grease guns in your plant? There's a masked bandit!

You can save 3¾ man hours for every 100 lbs. of grease and eliminate contamination risks, too.

Are you depending on "hand and muscle" for machine lubrication – with manpower costs 'way out of line and hit-or-miss maintenance? That's sabotage, too!

There is a way you can save up to 23.9 man hours in the application of every 100 lbs. of grease!

Have you ever measured your losses from "downtime" on machines due to bearing failure caused by faulty lubrication? Or have you ever figured the cost of "time-out" for lubrication? More thievery!

You can lubricate hundreds of bearings from one central point, with the right grease in the correct amount – while the machine continues to produce.

Have you got a clue that there may be a production thief in your plant – masked as faulty, old-time, hit-or-miss lubrication methods?

THERE IS A WAY TO STOP THESE LOSSES

An Alemite representative can tell you in 10 minutes how Alemite Methods will simplify and better organize your lubrication procedures. He can show you how mechanized lubrication from "barrel-to-bearing" will increase your production and profits.

Call your Alemite Distributor on the phone. Or write to Alemite, 1888 Diversey Parkway, Chicago 14, Illinois.

ALEMITE

MODERN LUBRICATION METHODS THAT CUT PRODUCTION COSTS

STEWART WARNER

"Give us the tools..."

YOUR ONLY CHANCE of Getting Ahead

Where is the "brave new world" so glowingly promised us by the politicians during and after the war? We were told then that postwar America would live 50% better than it had before. Why has that promise faded out? Why are men today discouraged and frustrated?

We have not yet made good 1944's promises because the *American worker turns out no more in an hour now than he did in 1941.* We are getting more total production in our country – but only because we have more people working. Not because each one of us is producing more. American industry's ability to turn out more and more goods – with less of each worker's time and effort – has been stymied for eight long years.

Progress has been blocked because in some cases workers have not been willing to work as hard as they did before the war. In other cases unions restrict the use of labor-saving machines and methods. In some places obsolete building codes and ordinances prevent advances. In still other cases progress has been blocked by collusive practices between unions and manufacturers or operators.

But the biggest block to progress is the fact that our industry in the United States has been unable to provide our workers with all the new tools and equipment that they need.

Increasing productivity – that is, each one of us turning out more in each hour of work – is the key to higher living standards. Productivity depends directly upon the kind of tools workers use. His tools, more than anything else, determine how much a worker can turn out; and what his paycheck will buy depends in large part on what he turns out–not on how long or how hard he works.

Look what happened in our country in the forty years from 1900 to 1940. Productivity of the United States *more than doubled.* It doubled because:

Business investment in capital equipment gave workers new tools – tools that had three and one-half times as much power –

So – Americans' living standard rose almost 50% while the average work week was dropping from 61 to 43 hours.

Industry did continue to raise its output per man hour, even in the depressed 1930's. But it did it because, with unemployment widespread, companies used only their most efficient equipment. *Actually the great depression saw industry fall far behind in the job of providing workers with new tools.*

Then came World War II. Few new tools for peacetime industry were produced. *As a result of depression and war, the U.S. fell behind in needed investment in new industrial facilities by more than $100 billion.*

Since the war business has spent almost $60 billion for new plants and equipment –

But the greater part of that money went to *expand* production to take care of the needs of our bigger population, and to *replace* plants and equipment that were worn out and ready to be junked at the end of the war.

continued on next page

Only a small fraction of the $60 billion went to *modernize equipment* – the equipment that increases efficiency and improves productivity of the individual worker.

Right now industry is desperately trying to do the job of increasing efficiency of machines so that each worker can turn out more.

McGraw-Hill's national survey of Business' Needs for New Plants and Equipment shows that manufacturers plan right now to spend in the 5 years ahead three-quarters of their capital funds to replace and modernize facilities. The biggest part of the more than $55 billion industry plans to spend on its plants and equipment will go directly to improve efficiency of the individual.

If industry can carry through its plans – and expand them as it would like to and as it must do – the U. S. can catch up on its depression-war-time lag in progress within a few short years.

If American industry is allowed to earn the money to buy the equipment, it can raise the American standard of living 50% in our generation – in the next 25 years. No other nation can promise its people that much – and deliver on the promise.

But the promise can only be fulfilled by American industry. Wherever you turn, industry has dramatic new ways of doing things. Using oxygen by the ton, steel makers are increasing production from blast furnaces by 20%. New high-speed machine tools are doing three times the work of 1940 tools. A new coal-mining machine will multiply a miner's daily output 10 times. Diesel locomotives do the work of three steam locomotives on many jobs.

New products – and larger production of standard products – are already making their impact on American life. Two million Americans will get new television sets this year. Automatic washing machines, electric dishwashers, and home freezers are easing the daily tasks of thousands of housewives. Millions of homes that did not have them before the war now have telephones, automatic heat and refrigerators. Frozen foods, nylon clothing – these and many other things coming along now – will shape the *real* new world for Americans.

But industry can provide them only if it can keep on investing at least $15 billion a year now – and more in future years – in new plants and equipment.

Today Washington is taking a course which, if pursued, will make that investment by industry impossible. Government spending now strains our resources to the limit, and more multi-billion dollar spending proposals are being piled on. *But government spending cannot improve American living standards.* It never has, and it never will. Increasing government spending *now* will only block progress, because the government proposes to pay for its plans by taxing away the profits industry is using, and must continue to use, to improve and expand its plants and equipment – our only hope for greater worker productivity and higher living standards.

Better living can only be paid for with more production. And we can only get more production by increasing productivity – by each one of us producing more for each hour of work.

The first thing is to get the production – in peace and in war – for better living – for security. Industry is planning to provide it – and is using $13 billion of its profits this year to improve and expand its facilities.

The only sensible, the only safe national policy is to make it possible for American industry to do its job – not to terrorize private industry with proposals of ruinous taxation and paralyzing controls and threats of nationalization. For American industry is not a thing apart from the American people any more than is government. American industry is the lifeblood of the American people and whatever makes industry do its work better contributes more to the common welfare than a bureaucratic government can ever hope to do.

President, McGraw-Hill Publishing Company, Inc.

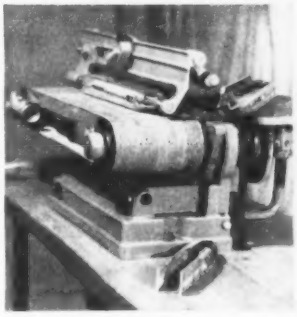
TEXTILE Equipment NEWS

Shuttles Refinished Without Destroying Accuracy

A new shuttle-refinishing and sizing machine which is said not to destroy the accuracy of shuttles has been developed by Machine Design Products, Inc.

The shuttle machine is said to be easy to operate and to produce an accurate and smooth finish. Sizing and refinishing is accomplished by holding the shuttle tips in a carrier so designed that the tips are always in line with the sanding surface. The shuttles can be held flat against the back plate to finish the sides and bottom or held away from the plate to round the corners. All surfaces are parallel to a center line drawn between the shuttle spurs. Curved surfaces at the end of the shuttle are finished by holding the shuttle against the back plate and tilting it sufficiently to follow the contour. All outside surfaces can be finished and held to very close tolerances. A special table and cutter has been designed to take care of filling thread and bottom grooves. The shuttle refinishing and sizing machine gives the shuttle a very smooth surface, free from a tacky varnish.

The company has also developed a shuttle-refinishing compound as an aid in keeping the shuttle clean and preventing the sidewalls from becoming sticky or tacky. The refinishing compound can be applied with a cloth to the refinished surfaces of an old shuttle or to new shuttles after removing the varnish used to protect the shuttle during storage. The shuttle can then be put into immediate use.



REFINISHING SHUTTLES can be done without destroying accuracy by this machine which sands surfaces parallel to a line between spurs.

To request additional information, please use the card on page C of the Reader-Service Department; refer to T-18.

Random Web Machine Uses Short Fiber

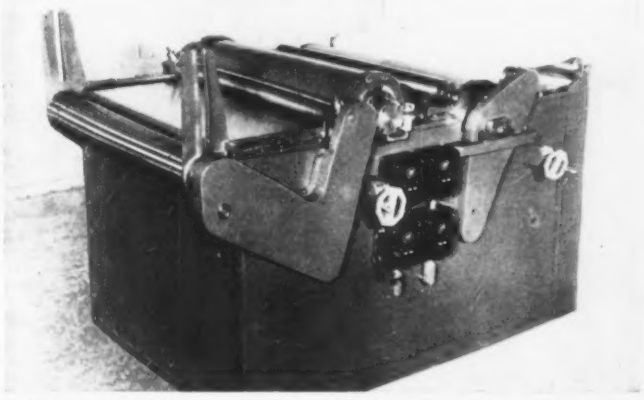
A random web machine which produces a random or nonoriented web suitable for processing into felts and bonded-web fabrics on a continuous basis is being manufactured by Consolidated Machine Tool Corp. The machine was developed by Francis M. Buresh, Blandford, Mass. A product having balanced physical properties is produced without the use of cross-laying devices. Another feature of the process is the ability to process a number of low-cost, short-staple waste fibers. Fibers having a staple length of ½ to 2 in. have been used. In this way, a considerable fiber cost saving is possible as compared with other web-processing methods.

Webs weighing ½ to 8 oz. per sq. yd. are now produced on the 40-in. machine at capacities ranging up to 35 lb. per hr. A variable-speed drive on the air-screen condensing unit regulates the weight of the web. To produce webs or mats heavier than 8 oz. per sq. yd., the required number of machines can be mounted over a traveling conveyor similar to a wadding card line.

A set of four motor drives (two of which are variable speed) are built into the machine. Only one electrical outlet along with air and water connections for the internal humidification system is required.

The process may be licensed for use under U. S. Patent No. 2,451,915 and others pending. Royalty is charged at the rate of two percent of the market value of the fiber processed with minimum and maximum limits of 0.2 cents per pound and 1.0 cents per pound respectively.

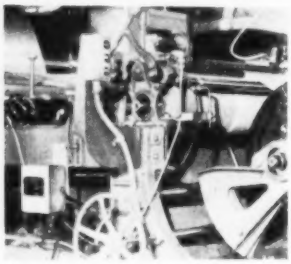
To request additional information, please use the card on page C of the Reader-Service Department, and refer to T-19.



A TRAVELING SCREEN is used for random deposit of fibers by air in this new unit.

Static Eliminator Uses Low Voltage

New, low-voltage static-eliminating equipment said to be particularly suited to slashers and warpers has been developed by Chapman Electric Neutralizer Co., Portland Me. The new low-voltage equipment is adaptable to many machines and processes where space limitations make it impractical to install high-voltage equip-



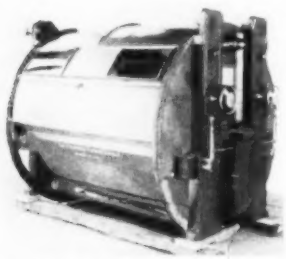
A LOW-VOLTAGE static eliminator is adaptable where space limitations prevent use of high-voltage equipment.

ment; and also where an individual type eliminator, without external high-tension wiring, simplifies installation by the purchaser.

The new Model LV static eliminator consists of: (1) a power unit hung on a simple bracket which is attached to the machine; (2) one or more inductor bars, 1-in. inside diameter, with a case of stainless steel; and (3) accessories which comprise a few suitable attachment fittings; and where needed, suitable cable guides or ducts.

To request further information, please use the card on page C of the Reader-Service Department; refer to T-39.

Cover Moves In Tracks on Dye Jig



ELIMINATION of overhead obstructions and enclosure of condensation are possible with this new-type jig cover.

A new type of cover for dye jigs which has two curved cover sections which move in curved tracks at the ends of the enclosure is being manufactured by Glasco Equipment Corp., Paterson, N. J. The two sections divide at the top and can be moved down, separately, to clear the jig, front and back, for loading and unloading.

The cover has no cables, chains, pulleys, or counterweight posts to interfere with jig operation. The enclosure sections move on bakelite rollers which eliminate friction. The sections are fitted with counterweights which move in the circular end tracks in which the enclosure sections themselves move. Opening and closing the enclosure sections are said to be effortless and to be accomplished by a touch of the hand.

Because the enclosure sections form a complete arc of a circle over the jig when closed, all condensation drains down inside the enclosure. When either or both the sections are opened, the steam vents at the top. There is said to be no dripping to injure the goods in the jig, or steam blast to endanger the operator.

When closed, the enclosure permits full observation by large glass windows in the curved enclosure sections.

Stainless steel is used in all parts of this enclosure, with the exception of the lead counterweights.

The end frames fit most jig castings presently in use, and the enclosures are easily transferred to new jigs when desired. The heavy frame is firmly anchored to the jig casting, in a firm, rigid assembly.

The enclosure is designed to take a minimum of floor space and working space. All working parts and jig bearings are outside the enclosure.

Installation takes little time and occasions little interruption of production.

To request further information, please use the card on page C of the Reader-Service Department; refer to T-38.

Improved Shuttle Eyes Offered by Draper Corp.

A new series of improved shuttle eyes and an improved enamel for cast-iron eyes have been developed by Draper Corp., for use in Draper shuttles. Many of the new eyes are interchangeable in the same shuttle, making possible a saving in shuttle cost on a change of weave.

No. 340 is a mill-tested cast-iron eye with a scroll designed to fit any shuttle with the 183-X eye, of which it is an improvement. A milled front hook, improved threading point, and more space in scroll chamber are said to insure better threading and more positive retention of the yarn in the eye.

A single-piece cast-iron eye, No. 347, will replace either of the above eyes. Instead of the steel scroll, it has two horizontal thread slots below the retaining hook. Being single-piece, many mills prefer it.

For mills which want to change from an 8-in. bobbin to 8½ in. in the same size shuttle and thus escape making other changes on the loom, the company has eyes shorter than the regular eyes to prevent choking the filling in weaving off. The shorter eye with scroll is No. 346, and No. 337 is the single-piece eye. These eyes fit the old shuttles. Draper Corp. does not advocate this change, but has the eyes for mills which want to adopt it.

Draper Corp. also has new and improved first-pick tension eyes for silk and filament rayon and proper eyes to replace either of them when changing to spun rayon. The new first-pick tension eyes are No. 325 for narrow shuttles and No. 286 for wide shuttles. The eyes for spun rayon are respectively No. 336 for a change from No. 325 and No. 331 in place of No. 286.

No. 325 and No. 336 will go in shuttles where mills now have No. 317 or No. 319; No. 286 has no older form.

To request additional information, please use the card on page C of the Reader-Service Department; refer to T-20.

Machine Records Hosiery Stretch and Recovery

A HYDRAULIC CUSHIONING DEVICE is an important new feature of this improved IP-4 tester.

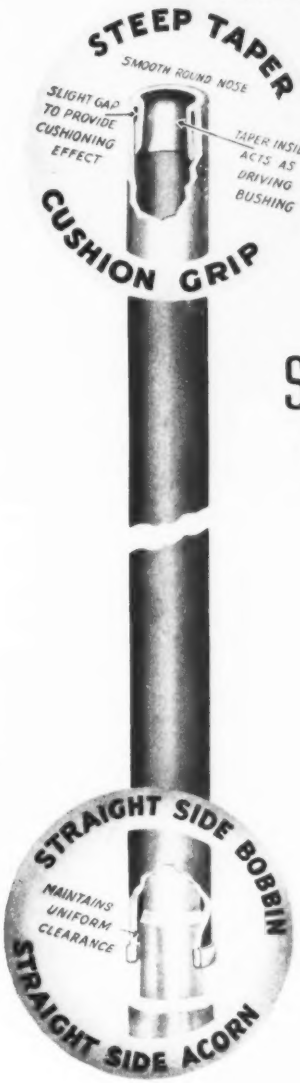
A new IP-4 machine which performs new tests for hosiery manufacturers and for the first time provides picturized records of the tests has been developed by Scott Testers, Inc. Special fixtures and attachments have been developed to permit areas as small as the instep of hosiery or as large as the welt to be evaluated for stretch and recovery. The tester gives the hosiery manufacturer a permanent record of variations of construction, design, and finish.

The new machine has been com-

Tested and Approved!

SONOCO Makes Everything in Textile Paper Carriers

Warp Spinning Bobbin (Straight Side)



Steadily growing acceptance of our Straight Side Warp Spinning Bobbin can mean only one thing — it has been mill TESTED and APPROVED.

The 5 distinct advantages have been demonstrated in repeated mill tests and production installations:

1. Easier doffing — breaks clear at top.
2. Uniform tension — from parallel sides.
3. Larger package — permits full traverse.
4. Positive clearance on spindle acorn at base.
5. Top drive contact — cushion grip feature.

Paralleling the growing use of our warp spinning bobbins, SONOCO laboratories continue working toward improving and perfecting its already impressive advantages.

Now available in all standard lengths and outside diameters to meet various traverse lengths, ring diameters and angles of yarn pull.

SONOCO 50th ANNIVERSARY YEAR SERVES THE WORLD

SONOCO PRODUCTS COMPANY

BRANTFORD ONT — HARTSVILLE S C — MYSTIC CONN

DEPENDABLE SOURCE OF SUPPLY

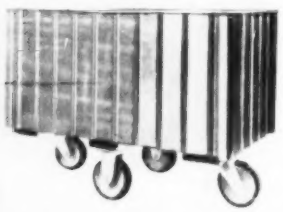
pletely redesigned, and only the principles of the inclined plane are retained. The base has smooth rounded contours. An inclosed motor drive greatly improves the appearance. A new type starting switch has been placed in a convenient position on a column added to support the yoke for the tilting table. The new tilting-plane table is of welded construction, eliminating the possible loosening of retaining bolts.

A shock-absorber cushioning device added is hydraulically operated. The greater the load that is dropped on this cushioning device, the easier the action in stopping the carriage. The device is practically noiseless in operation, an important improvement over other models.

A newly designed 15-in. recorder allows for the complete hysteresis of plastics or rubber-like materials, and permits more than one test to be put on the same chart. Provision has been made to allow the old style narrow 6-in. charts to be used when so desired. A knurled screw furnishes a handy adjustment for positioning the chart in proper relationship to the inking pen.

To request further information, please use the card on page C of the Reader Service Department; refer to T-29.

Steel Truck Has Yarn-Proof Wheels



CORRUGATIONS in stainless steel sheets provide strength, lightness, and rapid drainage.

Stainless steel trucks for interplant use are now being manufactured in stock sizes by Morris Textile Equipment Co.

The trucks have stainless steel end, side, and bottom panels having V-notch corrugations on approximately 6-in. centers. These corrugations are said to increase rigidity and to permit almost instantaneous drainage. There are no small drainage ports to be clogged with the material with which the truck is filled. All joints in the truck are welded and ground smooth. Top and corners are strongly reinforced. All-sheet construction contributes to light weight.

The trucks are equipped with flush double-wall, static free, aluminum wheels and casters. Rubber tires are easy on the floors, carry heavy loads without spreading, and are guaranteed against separation from wheel. Permanently lubricated, rolling on sealed, tapered Timken roller bearings, these wheels and casters are said to be 35% to 50% lighter than conventional types. They are designed to carry heavy loads for long periods with no maintenance. Watertight wheels can be furnished as optional equipment for use on trucks to carry wet goods.

The wheels are said to be completely yarn proof. Down time on textile plant trucks is sometimes great because yarn picked up by the truck wheels collects around axles and gets into bearings. One large woolen mill uses about 6,000 trucks of all types and employs one maintenance crew full time for yarn removal and caster lubrication. A set of wheels used on the Morris textile trucks were installed in this mill with the instructions that they be left completely alone. Twenty-one months later, an inspection of these wheels was made in the presence of the mill officials who found no yarn in the wheels, the manufacturer states.

Delivery: about four weeks after order.

To request further information, please use the card on page C of the Reader Service Department; refer to T-21.

Feeder Line Has Improved Features

Several improvements on its line of Bramwell card and continuous feeders have been announced by Geo. S. Harwood & Son.

Structural improvements in the continuous feeders include flame-cut-steel main frames. The spike-apron drive embodies a variable-speed transmission unit; and the comb has an adjustable hand-wheel mounting, both of which eliminate the need of shutdowns in order to alter rates of delivery. A large-diameter beater assures efficient stripping of all staple lengths; and a screw conveyor is provided, when desirable, automatically to eject dirt or other foreign matter. Improved bearings and oiling facilities are used throughout.

Card feeder improvements include:

1. An all-steel main frame said to provide increased machine strength and to insure parallel straight-edge apron lines, eliminating inward buckling.

2. A large-capacity hopper which reduces the frequency of refilling. The hopper also has a self-reducing density-control device designed to maintain constant density regardless of amount of stock in hopper.

3. A more sharply slanted spike apron to increase initial loading of stock on pins and permit lower operating speeds, thus reducing vibration and shock. The apron also has a variable-speed drive.

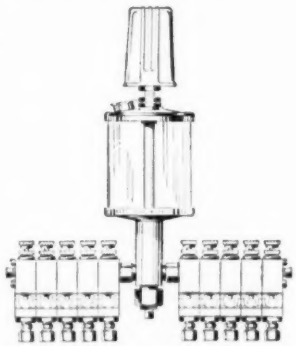
4. A multi-pinned convex comb which can be adjusted to control amount of combing and distribution and amount of stock on apron.

5. A diagonally suspended scale of the center-latch type to insure rapid, accurate weighing, plus diagonal presentation of dumpings to the card.

6. An automatic catch-pan device designed to close the aperture above the scale pan instantly as the correct balancing weight is reached.

To request additional information, please use the card on page C of the Reader Service Department; refer to T-22.

Multiple-Feed Oiler Is Electrically Operated



CENTRALIZED OILING is done automatically by this solenoid-operated multiple-sight feed oiler.

A new solenoid-operated, single- or multiple-feed oiler said to be entirely automatic in operation has been developed by Oil-Rite Corp. Oil is released from the reservoir by a solenoid-operated valve through single or multiple sight-feed valves to a number of individual bearings to be lubricated.

The solenoid is connected across the line of the driving motor of the machine whose bearings are to be lubricated. When the motor switch is turned on, lubrication of the bearings starts immediately. There is no toggle to be turned on or off, and the single reservoir will feed up to 24 bearings. The one reservoir can be filled more

BORDEN* goes 100%

Uxbridge "gentle air" slasher!

1 This battery of THREE "Uxbridge Gentle-Air" slashers is doing the work formerly done by SIX slashers at BORDEN MILLS, Inc. in Kingsport, Tenn.

2 Slashing 30/1 cotton yarn, speeds up to 105 yards per minute have been achieved. The average speed of these slashers under production conditions is 94 yards per minute.

3 Mills weaving "Gentle-Air" dryed warps report higher weave room efficiencies and greatly improved fabric appearance.

4 Thirty leading textile companies in 11 states and Canada report drying capacities of 750 to 1250 pounds per hour running a wide variety of cotton, wool, rayon and blended yarns.

* Borden Mills, Inc., Kingsport, Tenn.

BACHMANN UXBRIDGE WORSTED CORP.
UXBRIDGE, MASSACHUSETTS

More warps and Better warps

quickly than many small oilers. The oil fed to each bearing can be conveniently and individually adjusted as well as observed at one station through the sight feed valves.

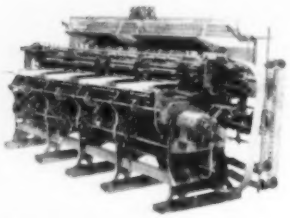
Smooth, easy hairline adjustments on each feed valve can be made and retained through the use of a friction screw. The amount of friction can be varied by tightening or loosening the knurled lock nut, depending upon individual conditions. The screw can be locked against severe vibration.

The oiler can be operated manually in case of power failure. It can easily be taken apart and easily cleaned by removing the pipe plugs at each end of the sight feed valves and the bottom of the shank.

Standard models are available in five body sizes with capacities from 8 oz. to 1 gal. up to 24 feeds, for standard voltages and frequencies.

To request further information please use the card on page C of the Reader Service Department; refer to T-30.

Reiner Has 66-Gage Twin Knitter



66-GAGE hosiery can be produced by this new model Twin Knitter.

Completion of a new 66-gage, full-fashioned hosiery four-section Twin-Knitter has been announced by Robert Reiner, Inc., Weehawken, N. J. The firm has been producing 60-gage hosiery equipment for some time.

An air-conditioning system is not required for operation of the Twin-Knitter, thus permitting considerable operational savings.

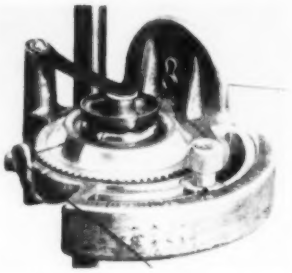
The company states that the Twin-Knitter can be run by operators who need only a short training period and who are known to handle as many as eight units (32 sections). There is only one manual operation connected with the entire knitting cycle, all other functions in this machine—from the start to the finish of a complete stocking—being fully automatic.

Installation of the Twin-Knitter is said to require little time since it comes fully assembled and needs only levelling off and setting to gage before power is applied.

The new 66-gage Twin-Knitter is intended for use by knitters aware of the trend toward finer gages.

To request further information, please use the card on page C of the Reader Service Department; refer to T-40.

Compensator Holds Desired Warping Tension



UNIFORM YARN TENSION for warping is maintained by this new compensator.

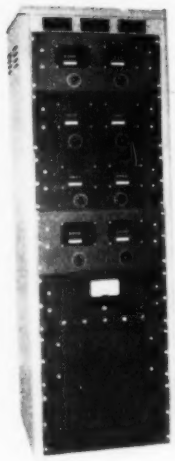
A new, fully compensating tension device designed specifically for warping has been developed by Walter Kidde & Co., Inc. The compensator is designed to maintain perfectly uniform tension on every end in the warp. The changing yarn tension itself acts on a control arm which varies the pressure on the spring loaded disks, resulting in uniform output tension. Equipped for easy threading and adjustment, the Kidde warping compensator will handle yarn at tensions up to 20 grams.

Among the advantages and economies of controlled tension in warping operations are elimination of beam buckling resulting from too-high tension; elimination of over-stressed yarns and shiners; more yardage on beams with less strain; and less "down time" due to high-tension breakage and loose-end stoppage.

To request further information, please use the card on page C of the Reader Service Department; refer to T-37.

Electron Micrometer Records Yarn Variations

The SERC electron micrometer, a new approach to yarn spinning control, which measures the evenness of yarn by non-contact electronic means has been developed by Standard Electronic Research Corp. Model EMD-S can be used to analyze the over-all quality of the yarn. In addition to a direct measurement, the device furnishes a graphic record plus a count of the number of high spots (slubs, neps, knots, etc.) and of low spots in the material under examination. The counters register whenever the yarn diameter exceeds or goes below preset limits which are independently adjustable. The graphic record is furnished by a high-speed Brush recorder.



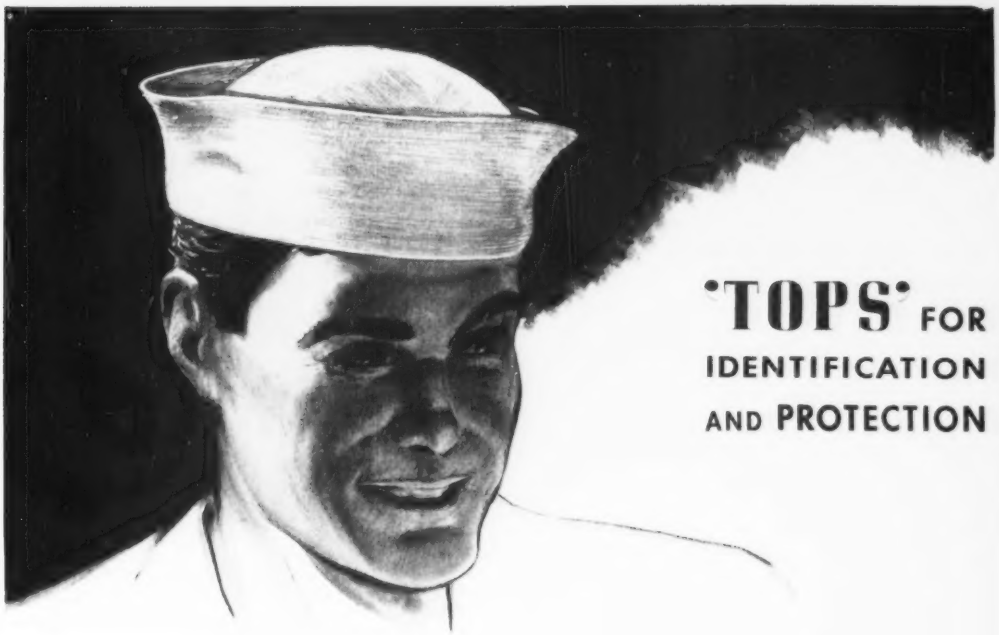
EIGHT COUNTING UNITS in series give a complete analysis of yarn quality without necessity for chart interpretation.

The yarn analyzer has eight counting units in series. These units are set at various intervals to give a complete statistical analysis of yarn-evenness variations, without the necessity for chart interpretation.

Measurements are made continuously, without contact, distortion, flattening or stretching. Variations in moisture content or atmospheric conditions do not affect the accuracy. The measuring medium is a weightless beam of light. Measurements are said to be consistent, direct, and accurate on all fibers, both natural and synthetic, alone or in blends.

In operation, the image of the material under inspection is picked up on the light-sensitive photo tube, converted into electrical energy, and the resultant signal amplified to register on a meter, record on a graph, or actuate mechanisms to count the number of times predetermined tolerance limits are exceeded. Designed primarily for yarn measurement, present users report success in the measurement of roving.

To request further information, please use the card on page C of the Reader Service Department; refer to T-31.



"TOPS" FOR IDENTIFICATION AND PROTECTION

KAUMAGRAPH EMBOSSED SEALS

"Sailor" says the hat on the seafarer's head. "Seller" say Kaumagraph Embossed Seals . . . creatively designed, expertly engraved . . . emphasizing unmistakable identification and distinction . . . and currently helping countless products chart a straight clear course to customer preference. Let Embossed Seals help make the sticker on your product "see-worthy" and sales building.

In any shape or size, Kaumagraph Embossed Seals may be produced in any color including gold and silver . . . or embossed on metallic paper or foil. Kaumagraph's Art Department will gladly help you with your design problem and submit sketches for approval. Send for a Kaumagraph Man now.

- Dry Transfers
- Prestamark Labels
- Embossed Seals
- Transfer Irons
- Stamping Inks
- Lithography for Box Wraps
- Labels • Displays
- Booklets and Folders

Real savings in time and money are made in the many mills where Kaumagraph Dry Transfer marking is used in conjunction with some processing operations. Let's help determine the practicality for you.

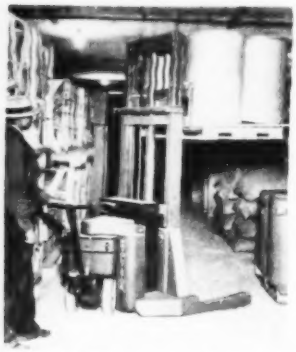
KAUMAGRAPH

Identification Headquarters Since 1902

KAUMAGRAPH COMPANY, WILMINGTON 99, DELAWARE

EMPIRE STATE BLDG., NEW YORK CITY • *Representatives in Principal Textile Centers of the World*

Lift Truck Operates In 6-Ft. Aisles



A NEW POWER LIFT TRUCK, the "Go-Getter," for use in cramped areas has been announced by Revolvator Co. The new truck can operate in 6 ft. aisles with a 48-in. load length. Capacity is 2,500 lb.; collapsed height of trucks available is 68 and 83 in.; lifts are 85 and 115 in.

To request further information, please use the card on page C of the Reader Service Department and refer to T-26.

New German Card Has Interesting Features

A new woolen carding machine with some interesting features is being made in Germany by Spinnereimaschinen Fabrik F. W. G. Schiermayer. Construction of the new card is basically the same as U. S. cards, with exception of a few features. Each cylinder has a center-draw feed. Between the first and the second cylinder the web is transported in such a way that the fiber carded lengthwise on the first cylinder will be carded crosswise on the second cylinder. After leaving the second cylinder, the web is transported over a broad-band feed to the third cylinder, where the fiber receives a lengthwise carding again. The idea is to card fiber thoroughly in every direction and to take out as many impurities, neps, etc. as possible.

The card itself consists of a feed-box with a precision weighing apparatus; a feedtable; a pair of feedrolls and one cleaning roll; a breast cylinder with two workers and strippers; a tumbler; three cylinders each of which equipped with five workers, five strippers, one doffer, and one fancy; and a four-bank single-apron tape condenser.

Cylinders and doffers have an iron frame which is covered with plaster of paris, workers and strippers are made of steel, and the fancy roll is of hard wood. Underneath the breast and the first and second cylinder are grids. The first and second worker on the first and second cylinder have a burr-removing device. The number of ends on the tape condenser depends upon the width of the card and the size of roving to be produced on the machine.

To request further information, please use the card on page C of the Reader Service Department, referring to T-23.

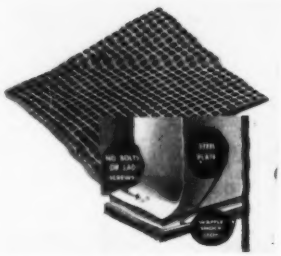
Rubber Pads Dampen Machine Vibration

Shock Stops, a new type of rubber vibration dampener with a semi-pneumatic action, have been announced by Connecticut Hard Rubber Co., New Haven, Conn.

Vibrations set up by most textile equipment can be isolated by placing Shock Stops between the base or feet of the equipment and the floor or foundation, the manufacturer states. Floors, walls, and ceiling are guarded from damage; noise is reduced; and production can be increased.

Shock Stops are designed to be equally effective in protecting balances, electronic devices, and similar delicate equipment from vibrations coming in from the outside.

Shock Stops are available in large



LAG SCREWS and machine vibration are eliminated by using rubber pads to anchor equipment to floors.

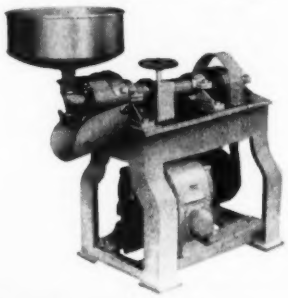
18x18 in. square sheets that may be cut to the required size, and also in round shapes 3¼ and 2¼ in. in diameter.

The waffle-like grid of the Shock Stop design, when laid on a smooth surface, tends to trap air. Vibrations of unwanted amplitudes are diverted by this air through the supporting ribs and do not pass to the supporting surface.

Tests are said to show that where the disturbing frequency runs between 1,000 and 3,000 cycles per min., a reduction in vibrations of from 75 to 90% may be obtained with the use of Shock Stops.

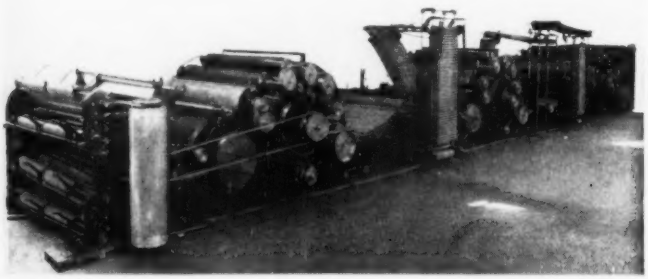
To request further information, please use the card on page C of the Reader Service Department; refer to T-41.

Finer Dispersion Gives Uniformity and Stability



SIZE-COOKING TIME is said to be reduced by use of homogenizers.

New principles of homogenizer design have been applied in the construction of the Tri-Homo Homogenizer, manufactured by the Tri-Homo Corp., Salem, Mass. An increasing number of mills, processing, dyeing, printing, and finishing plants are taking advantage of the finer dispersion and stability of their processing compounds ob-



A CENTER-DRAW FEED following each cylinder is a feature of this German-made card.

Duesberg-Bosson Woolen Cards

for the manufacture of Fine, Medium and Carpet Wools

Greatly increased production . . . Improved quality with savings in card flyings and wastes

Detailed circular sent on request

Additional Wool Preparing Machinery

Oiling Device • Mixing Picker (Fearnaught Type)
Picker Feeders • Automatic Card Feeders
Patented PERALTA Machine
Intermediate Center Draw Broad Band Feed
Tape Condensers
Woolen Cards with Two, Three and Four Cylinders

Duesberg-Bosson of America, Inc.

FITCHBURG, MASSACHUSETTS

tained with the use of homogenizers.

Triple dispersion in one operation is obtained in this unique design. The worm impeller assures a constant, uniform feed to the triple angles between the rotor and stator. Centrifugal action forces the product into the small clearance between rotor and stator and simulates the action of three separate grindings and dispersions at the same time. The clearance is adjusted with a convenient handwheel and calibrated dial, giving readings to 1/1000 in.

Homogenizers of the Tri-Homo type have no reciprocating parts, no pistons or connecting rods to wear or get out of adjustment. The machines are built in varied sizes according to capacity required. All heads are jacketed and equipped with fittings to allow a coolant or heating agent to be used. The standard rotor and stator are made of Nitralloy, an abrasive-resisting metal that has been thoroughly tested on many products. Other suitable materials are also available for particular products.

To request further information, please use the card on page C of the Reader-Service Department; refer to T-42.

Seven Finishing Units Announced By Cook-P&N

1. A new 4-tank open-width processing machine with individual motor drives is one of seven new finishing machines developed by Cook-P&N Machine Co., Inc.

Frames, roll standards, etc. of the 4-tank machine are of mild steel. The remainder of the machine is completely stainless steel.

Bottom squeeze rolls are stainless steel, and top rolls are rubber covered. All rolls revolve in self-aligning ball bearings. Pressure is applied through a diaphragm with automatic means of raising the top roll when air is shut off.

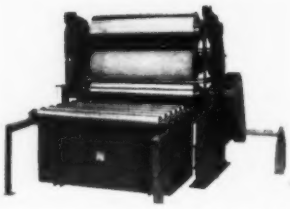
Radial-type compensators automatically adjust motor speeds to maintain required tension on cloth.

All guide and immersion rolls are equipped with stainless-steel heads and shafts.

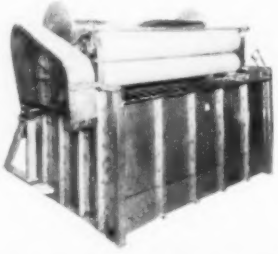
Preceding each pair of squeeze rolls is a stainless-steel spiral roll driven from the bottom squeeze roll through cut gears. A rubber expander may be used instead.

The entering end is arranged with overhead guide rails and a guider. The drive is through d.c. motors, supported on bases above floor level, and V-belt drives to reduction pulleys on the end of each bottom squeeze roll. The drive can be arranged with motors directly connected to bottom rolls if preferred.

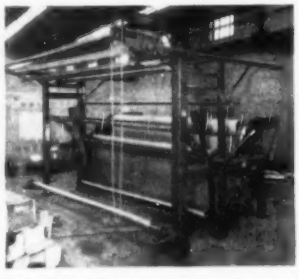
Machines are available with any number of tanks and in all widths and all combinations.



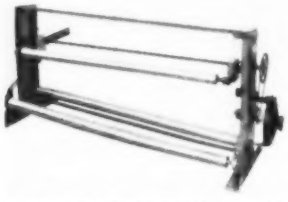
HIGH-SPEED OPERATION is said to be made possible by the design of this new three-roll mercerizing padder.



SLACK WASHER has rubber-covered squeeze rolls, stainless-steel lifting shaft.



STAINLESS STEEL is used in the wetout tank and immersion roll for this singeing.



RADIAL-TYPE COMPENSATOR is furnished with three (as shown), two, or one rolls.

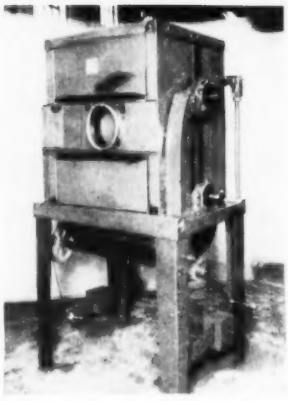
2. A newly designed vertical high-speed singeing machine features all-steel construction. The machine shown has a 126-in. face and is furnished complete, ready to attach Kemp radiant-flame burners.

The singer has manual or automatic means of pulling the cloth away from the burners when machine is stopped.

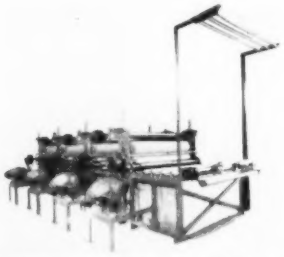
The stainless-steel wetout tank has a stainless-steel immersion roll. Squeeze rolls are rubber covered, or one may be stainless-steel covered. Roll standards are of fabricated steel with sliding weight for pressure.

Machines are made in all commercial widths and for acetate rayons.

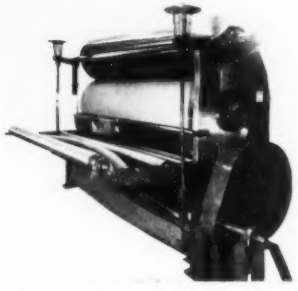
3. A new three-roll, microset padder



POTEYE of stainless steel is adjustable across roll.



INDIVIDUAL MOTORS drive each set of squeeze rolls in this four-tank open-width unit.



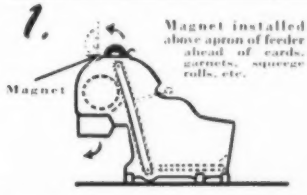
CONSTRUCTION of this Microset padder is all steel.

The A-B-C's of *Eriez* Permanent Magnetic Protection for Textile Mills

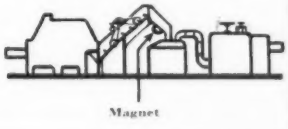
BASICALLY, there are three types of Eriez Permanent Non-Electric Magnetic Separators for the textile industry . . . Eriez Plate Magnets, Magnetic Pulleys, and Magnetic Humps. Each has been specifically designed to provide essential magnetic protection necessary in various parts of the mill. Reference to the diagrams below gives an idea of some of the more popular applications and of the Eriez methods developed to scientifically remove tramp iron. Magnetic protection, properly applied, can eliminate fire and production shutdowns—plus—damage to card and garnet clothing. The thousands of successful applications and the diversity of installations make Eriez best qualified to handle your separation problems. Have an Eriez engineer recommend the permanent magnetic equipment you need to give you complete protection against tramp iron!

A. PLATE MAGNETS

1. Magnet installed above apron of feeder ahead of cards, garnets, squeeze rolls, etc.



2. Plate magnet installed in the discharge chute of a Centrif-Air Superior Cleaner.



3.

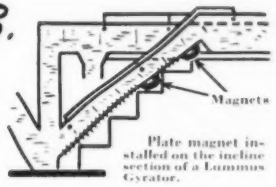
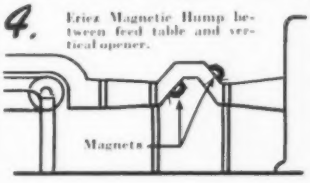


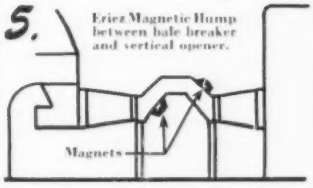
Plate magnet installed on the incline section of a Lummus Cyrator.

B. PNEUMATIC LINES

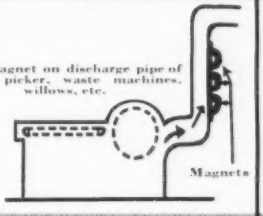
4. Eriez Magnetic Hump between feed table and vertical opener.



5. Eriez Magnetic Hump between bale breaker and vertical opener.

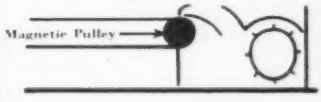


6. Eriez Magnet on discharge pipe of mixing picker, waste machines, willows, etc.

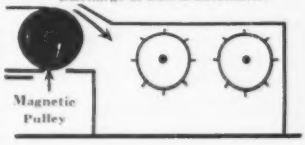


C. MAGNETIC PULLEYS

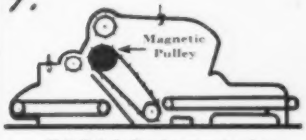
7. Eriez Magnetic Pulley installed in feed table protects vertical opener from tramp iron.



8. Magnetic pulley installed as head pulley on conveyor feeding cleaner. Discharge of iron is automatic.



9.



H & B Bale Breaker showing location of magnetic pulley on spiked apron.

Eriez Non-Electric Permanent Magnets Give You These *Advantages*

1. Superior Cleaning Ability. 2. No Wiring for Electric Current Needed . . . No Coils To Burn Out. 3. Cool Running . . . No Loss of Magnetism Through Heating Up. 4. Not Affected by Moisture or Wet Materials. 5. No Operating Costs . . . First Cost is Last Cost. 6. Minimum Installation Cost. 7. Simple . . . Powerful . . . Permanently Magnetized. 8. Uninterrupted Operation . . . Top Efficiency Always. 9. Easily Installed in Original Equipment.

Pioneer of PERMANENT Magnetic Separation

SEE OUR CATALOG IN SWEET'S

See Our Catalog P $\frac{1b}{2}$
Sweet's Process Industries File

Write for bulletin 104-A

ERIEZ MANUFACTURING COMPANY

501 East 12th St. • ERIE, PA.

with a 100-in. face is designed to operate with the Cook P&N steam pad dye range. The padder is of all fabricated-steel construction and has two stainless-steel-covered rolls and one rubber-covered roll. Special features incorporated are stainless-steel splash pans, extra-large self-aligning roller bearings, a stainless-steel pan arranged for double immersion, stainless-steel guide rolls, and a rubber expander on the entering end.

Other models are offered with center-roll drive and pneumatic pressure, and may be ordered in widths from 50- to 110-in. roll face.

4. A new radial-type compensator is furnished as a complete unit made to bolt to the ceiling or to the frame of any existing machines.

All revolving parts are ball-bearing mounted. A dancer roll is arranged for zero tension, or weight can be added to the roll.

Machines are made with modifications in frames and with stainless steel, brass, or steel rolls.

5. A new stainless-steel slack washer, model B, with cascade washing, is of sturdy design with box-type reinforcing, solid oval reel, and rubber-covered squeeze rolls with stainless-steel lifting shaft.

The machine is equipped with the usual front partition which is arranged for correct water flow. The peg rail is of stainless steel and is adjustable sideways. Drives are guarded.

Various combinations are available incorporating the most efficient stainless-steel fabrication.

6. A new vertical rope squeezer is made entirely of fabricated steel with the frame and roll standards of mild steel, and the inclosure of stainless steel. The bottom roll has stainless-steel covering; the top roll is rubber covered. Both rolls revolve in self-aligning ball-bearing pillow blocks. Pressure is through weight and compound leverage with a mechanical lifting device.

A stainless-steel pot eye is used on the entering end is adjustable across face of roll.

The inclosure is arranged with a full-size door on the delivery end.

Other models are made with rolls in horizontal position and with pneumatic pressure if desired.

7. A new three-roll mercerizing padder, model A, has fabricated-steel construction throughout and is designed for high-speed operation. Other features include pneumatic pressure, two stainless-steel-covered rolls, one rubber-covered roll, extra-heavy roll shafts, and self-aligning roller bearings.

The tank can be supplied with stainless steel or mild steel. All tanks rolls revolve in roll bearings. All drives are guarded, and finger guards are provided at nip rolls.

Other models are available with a center roll drive. The machine is made in all widths.

Splash guards at ends of rolls are included.

To request further information, please use the card on page C of the Reader Service Department; refer to T-28.

Truck Eases Handling Of Bales Up to 1,800 Lb.

Easy one-man handling of 1,800 pound, 72-in. bales, as well as all lighter bales, is said to be made possible by the bale truck recently announced by Melooz Mfg. Co.

The Melooz bale truck makes use of a leverage plate, extending 28 in. from the axle to the rear casters and terminating in a contoured foot rest for bale loading. When the operator stands on the foot rest, he applies a force equal to 3½ times his own weight to the overbalancing and loading of the bale. He simply grasps the top wire, tugs it toward him. As he does so, the bale is said to be automatically loaded and brought gently down to the wheeling position.

The operator is relieved of balancing and carrying the weight of the bale, since this is done for him by the steel tripod support and rear casters. All he does is guide the truck to its destination.

To unload, the operator swings the truck handles up vertically, applies a one-hand push to the top of the bale, and immediately it slides off the short, tapered-prong nose.

A tilt-and-lock mechanism changes the angle of the truck at will for the best balance and maximum ease in handling any bale, regardless of size or weight.

The truck is designed for working in close, cramped quarters. It is built to maintain maximum stability in operating over littered, rough, wet, or slippery floors, on ramps and inclines, and other difficult floor conditions.

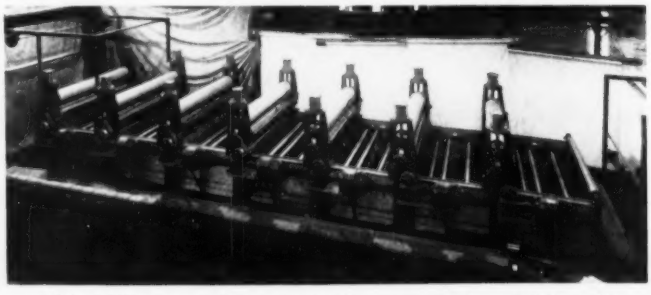
EASY LOADING, carrying, and unloading are features of this new bale truck.

To request further information, please use the card on page C of the Reader Service Department; refer to T-25.

Seven-Tank Machine Has Individual Nip Drives

A new seven-tank continuous open-width machine for processing fabrics in the open width has been developed by Birch Brothers, Inc. Tanks, immersion rolls, and steam pipes are of stainless steel. Squeeze rolls are rubber covered and are mounted in roller bearings. Pressure is applied by air cylinders or air motors. Before each pair of squeeze rolls are expander rolls and a spray pipe. The entering end of the machine is fitted with a cloth guider and the delivery end with a folder or a rolling arrangement or both. The drive is by an individual d.c. soft motor for each nip. This drive insures uniform tension and permits a speed range of 4 to 1.

The machine can be used for crabbing fabrics such as gabardine, serges,



STAINLESS-STEEL construction is used in this new seven-tank open-width machine.

For Printing with VAT DYES . . .

For efficient printing with vat dyes you can always depend on SOLVAY LIQUID POTASSIUM CARBONATE. Thanks to its liquid form, it is much easier to handle, simpler to use and extremely convenient to store. Insist on SOLVAY LIQUID POTASSIUM CARBONATE (47% K_2CO_3). Shipped in Tank Cars or Drums.

SOLVAY SALES DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y.

BRANCH SALES OFFICES:

Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit
Houston • New Orleans • New York • Philadelphia • Pittsburgh
St. Louis • Syracuse

Also Available:
Hydrated 83-85%
Calcined 99-100%

rayon blends, and for open width scouring or dyeing.

The machine is available in all commercial widths and with any number of tanks.

To request further information, please use the card on page C of the Reader-Service Department; refer to T-27.

Circular Machine Knits Full-Fashioned Stockings

A new circular machine designed to knit true full-fashioned stockings has been developed by Messrs. Reymes-Cole (Patents) Ltd., Barwell, Leicestershire, England.

The stocking is started at the toe with a reduced number of needles knitting, for example, 280. The toe, sole, heel, and ankle are knitted with this number of needles; and during the calf extra needles are introduced to increase the width for the leg. The fabric tube is further increased at the top by the addition of further needles to give the width for the thigh.

The fabric quality is said to be regular throughout with approximately the same number of courses and wales per inch in all parts of the stocking.

Finishing operations are identical to those for the normal circular-knit stocking. The fashion marks made by widening are arranged to occur in the same place as the fashion marks on straight-bar-fashioned stockings. The distinctive straight wale effect parallel to the seam is also maintained as well as the converging wales toward the fashionings.

To request further information, please use the card on page C of the Reader-Service Department; refer to T-44.

Fabrics Coated and Embossed Continuously

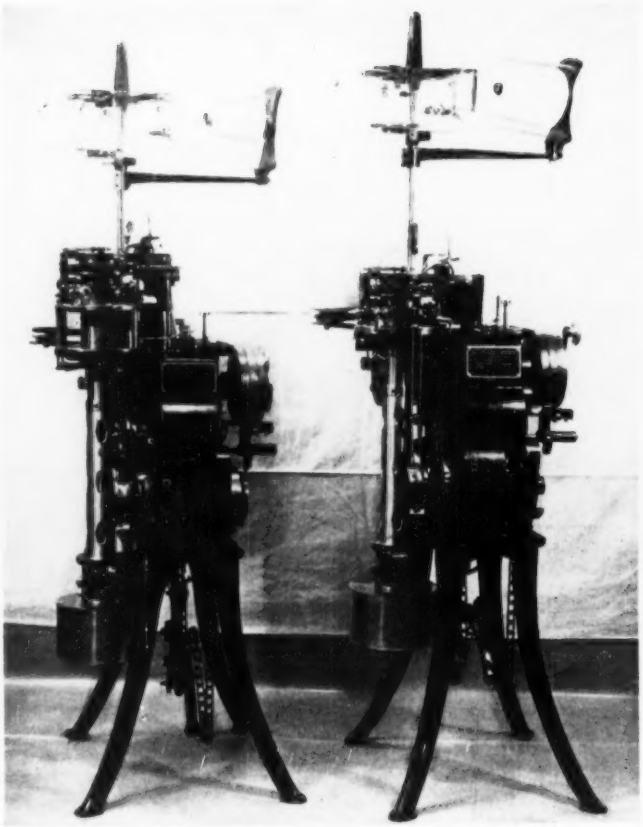
A new method of manufacturing artificial leather or coated fabric by applying the coating as a single coat and embossing simultaneously in tandem with the coating operation has been developed by the Atlas Powder Co., Stamford, Conn. The new process eliminates the need for repeated coatings and a separate embossing process.

The development uses a new coating paste called Zapon-Plastisol. This paste is 100% solids and contains no volatile solvents, thus eliminating the need of drying systems. An air-exhaust system is used only to remove small amounts of vapors resulting from the heat-fusing operation.

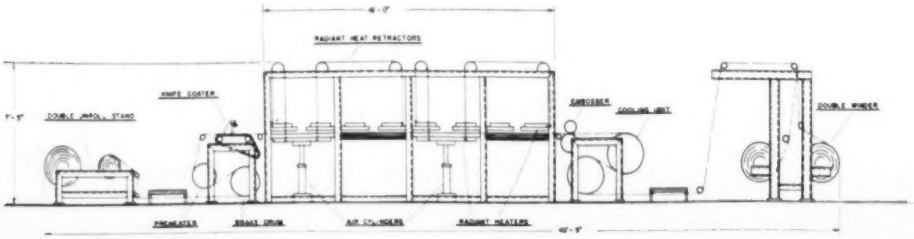
The fusing section is short, approximately 16 ft., as compared to most older-type drying chambers which were much longer.

Radiant-heat panels manufactured by Industrial Radiant Heat Corp. are used for the heat source. Each panel is made up of an aluminum housing containing Nichrome wire heating elements, encased in glass fiber tubing, embedded in glass fiber and covered

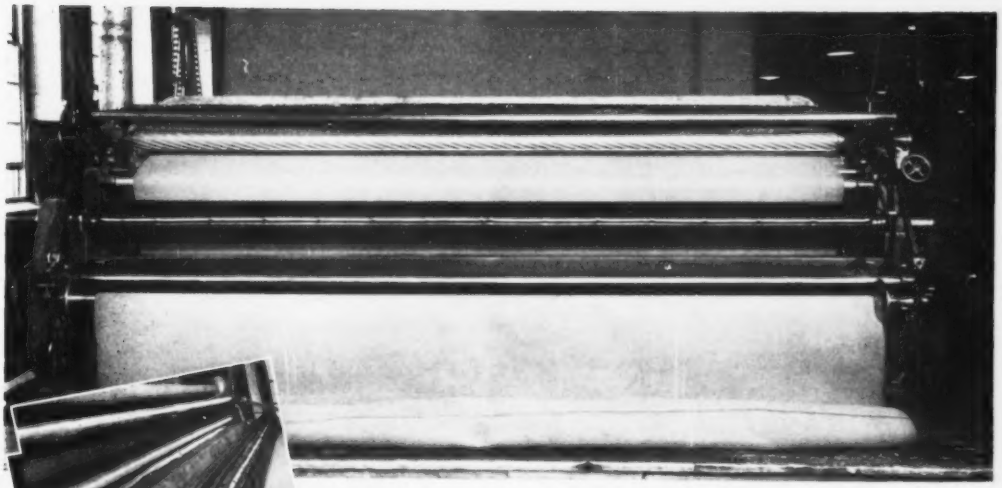
(*Continued on page 218*)

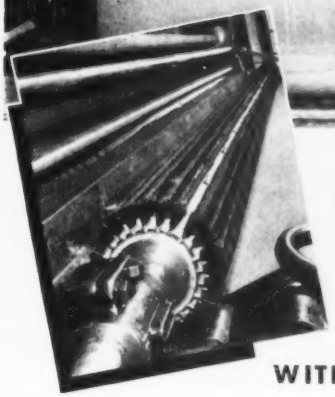


***FULL-FASHIONED CIRCULAR-KNIT STOCKINGS** can be knit on the machine at the left above. Machine at right is conventional seamless machine.*



***COATING AND EMBOSSING** in one operation on less equipment than previously used is claimed for this new coating unit.*





Why it Pays BIGELOW to Modernize

WITH FULLERGRIPT NAP RAISING BRUSH

THE longest Fullergript Nap Raising Brush ever built — it measures 151 inches — has been installed on a shear at the Bigelow-Sanford plant. This brush is built with a tubular metal core to assure positive and permanent alignment. On this core are mounted parallel strips of continuous-face-type Fullergript, and the complete brush assembly is statically and dynamically balanced. All chances of "whip" are eliminated. Top performance in nap raising is assured, and because the core of this brush is metal, and non-warping, such performance is permanent.

Because Fullergript is a strip of metal-encased brush material, this strip may be replaced. The core of the brush remains in the machine, with bearings and alignment untouched, so that replacement brush strips are attached without impairing the efficiency of the operation.

Fullergript engineers have developed many types of power brushes for cloth brushing applications. Some brushes have been built to the close tolerances usually associated only with metals; others have been simple and very inexpensive. In every case Fullergript brought advantages of long life and simplified, economical maintenance. You, too, can profitably modernize with Fullergript. Just take your problems to the Fullergript engineers by addressing correspondence to . . .

FULLER BRUSH ALSO BUILDS SPECIAL MACHINES AND PARTS

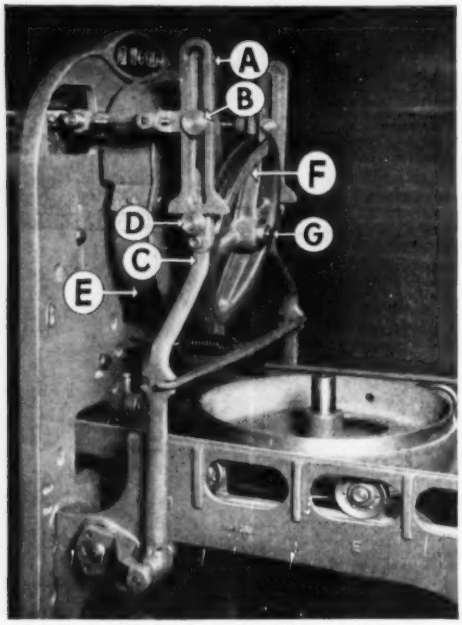
In developing special power brushes Fuller Brush has expanded its tool room and machine shop facilities. These were further augmented during the war when Fuller Brush built turbines and other machinery. Consequently Fuller Brush now offers you both engineering and manufacturing facilities for producing special parts and machines. Take advantage of this service by writing to . . .

INDUSTRIAL DIVISION, 3594 MAIN ST. HARTFORD 2, CONN.

THIS IS NO. 76 OF A SERIES ON

GETTING THE MOST FROM TWISTING

Information about twisting designed to show improvements in twisting equipment and new ideas in the twisting operation



New Traverse Motion Assembly for "Utility" Up-Twister.

NEW TRAVERSE MOTION ASSEMBLY Atwood "Utility" Up-Twister

A much smoother traverse motion than has been hitherto available is provided by the new traverse motion assembly recently developed for the Utility Up-Twister.

This assembly has a new traverse lever connection (A) which pivots on a stud and roll (B). To change the traverse length, the stud and roll can be adjusted in the elongated slots in the connection and the traverse lever (C). A similar stud and roll (D), held in a fixed position on the traverse lever, act as a bearing surface for the connection, yet offer a minimum of frictional resistance to the movement of the lever and the connection. Thus a very smooth and even traverse is produced.

Ribbon Effect Overcome

Ribbon effect is overcome by an auxiliary motion which works in conjunction with the traverse motion. This auxiliary motion is obtained by two gears enclosed in the housing (E). One of these gears is compounded on a sleeve with the cam (F); the other is attached to the shaft (G). Both gears are driven by the same pinion, but they revolve at different speeds because one contains fewer teeth than the other.

A cam follower on one gear rides the face of an eight-lobe cam which is cut in such a way on the other gear that it causes the cam (F) and the gear compounded on the sleeve to move back and forth on the shaft (G).

The eight lobes vary in throw from one to three-sixteenths of an inch; consequently, since the gears revolve at different speeds, the cam follower is continuously changing position on the lobes of the cam, and this causes the yarn to be laid in a slightly different position on each traverse stroke.

Setting the Traverse

When setting the traverse, it should be remembered that the winding point, as the yarn builds up on the bobbin, will be moved in either direction along the bobbin barrel by the action of the auxiliary motion described above. The distance through which the winding point moves varies from about 3/32 in. to 3/16 in., depending upon the relative positions of the cam and follower.

Thus, it can be seen that, if the traverse motion is set so that the yarn traverses the full length of the empty bobbin barrel between heads, it will, as the package builds up, commence to pile at one end and be cut back at the other.

One method of making the seting to allow for the change in the winding point, is to move the stud and roll (B) downward — shortening the traverse so that the first few layers of yarn wound on the bobbin will be cut back from the heads at both ends — and then allow the package to build up for about ten minutes. From observations made during the ten minutes, adjustments can be made to lengthen the traverse until the correct traversing condition is obtained.

See pages on Universal and Atwood Machinery in TEXTILE CATALOGS AND DAVISON'S

*Reg. U.S. Pat. Off.

23.9.1

July, 1949

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

UNIVERSAL WINDING COMPANY

INCLUDING ATWOOD DIVISION

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA CHICAGO LOS ANGELES MONTREAL and HAMILTON

How the Management Team Can Build Better Human Relations

By GLENN GARDINER

Pointers FOR SUPERVISORS

How Supervisors Can CONTROL COSTS

HIGHLIGHTS: *Foremen can do much to keep operating costs down—Materials and supplies should be conserved—Proper methods control labor costs—Overhead cut when spread over more units.*

GLENN GARDNER

"There is very little I can do about costs," a textile supervisor said recently. "The purchasing department buys the material. The engineering department makes the repairs and installs the equipment. Top management decides on the wages. Uncle Sam names the taxes. There's very little left for me to do about cost control."

Actually, there is plenty that the foreman can do—plenty that every supervisor can do in the control of costs.

Economies in Materials and Supplies

The department supervisor may not determine the price paid for material. However, when material and supplies come to his department, there are many things he can do to economize in their use. Here are several suggestions:

1. Use the right material for the job.
2. Establish a careful system for issuance of material and supplies.
3. See that materials and supplies are properly stored.
4. Avoid scrap by thorough instruction of workers and by careful adjustment of equipment.

Controlling Labor Costs

Even though the wage scale to be paid workers is determined by someone outside the supervisor's department, it is his job to see that the company gets efficient services in return for the wage dollars. Here are some ways to control labor costs:

1. Put the right man on the job.
2. Give thorough and effective instruction.
3. Maintain cooperative discipline.
4. Plan work so as to reduce idle time.
5. Devise labor-saving methods.
6. Assign the right number of men to the job.
7. Win the good will and cooperation of workers.
8. Lay out the department to avoid needless handling and transporting of material.

Care of Equipment

Even though executives above may decide what equipment to install, the supervisor is responsible for prolonging the useful life of equipment and seeing that the equipment operates at capacity. Here are some ways to control cost of equipment:

1. Inspect equipment regularly and make repairs promptly.
2. See that equipment is properly cleaned and lubricated.
3. Use equipment for the purpose for which it is intended.
4. Do not overload equipment, but load it continuously at its proper capacity.
5. Instruct workers thoroughly in proper care of equipment.
6. Protect equipment from the elements.

Reducing Overhead Costs per Unit of Product

Our textile industry has never been faced with greater necessity for reducing costs and increasing productivity than at the present time. Such items of overhead expense as taxes, insurance, administration, and supervision are relatively fixed items of expense whether production rises or falls. There are certain definite things that every supervisor can do, however, to make sure that the amount of overhead cost attached to each yard of cloth, or unit of product, is minimized. The textile supervisor can control unit overhead cost as follows:

1. Operate the department efficiently to increase production so that overhead expense is divided up among a greater number of units of production.
2. Reduce the idle time of equipment.
3. Increase the length of service of equipment by careful maintenance.
4. Utilize his own supervisory time to the very best advantage.

Maintaining Good Human Relations

In addition to the great satisfaction to supervisors and workers, good human relations actually have an important dollar-and-cents value. Here are a number of ways in which good human relations help cut costs:

1. There is less "soldiering" on the job when good relations between supervisor and employees exist. An employee who thinks he is getting a "good deal" from his boss is not so likely to shirk.
2. Where there are good human relations, employees will take more care to turn out a quality product. Quality is worth money.
3. Good human relations reduce absenteeism. Workers will make a special effort to be on the job.
4. Good human relations prevent accidents. A satisfied worker will be more cooperative in helping to maintain a good department safety record. He is a safer worker because he has his mind on his job, instead of smarting under some grievance or nursing a grudge.
5. Good relations decrease grievances. Grievances cost money. They cost the time supervisors and workers spend straightening them out. They also take their toll in lowered morale, which means lower output.
6. The satisfied and contented worker will cooperate more closely in preventing waste.
7. Good relations stimulate suggestions for job-method improvement.
8. When relations are good the worker is more interested in improving his own qualifications.
9. Good relations make for all-around teamwork between workers, and between workers and supervisors.

The control of cost is one of the most important functions of a supervisor. There is practically no item of cost which a supervisor cannot influence directly or indirectly by good supervisory practice.

Top management judges its supervisors by their ability to control departmental costs. Cost figures are a definite measuring stick of a supervisor's ability.

Kinks AND SHORT-CUTS

Hooked-Comb Dangler Corrects Rib Press-Offs

Circular rib machines are not generally fitted with holding-down sinkers. Unless some weight is applied to each loop as it is being knocked over, regular knitting cannot take place.

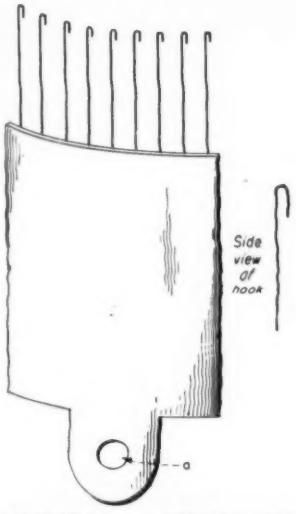
This weight is applied by the drawing-off mechanism, which exerts a continuous and regular pull on the fabric. If the pull varies to any great extent at any point on the circumference of the machine, it is likely to cause either local load-ups or press-offs.

A faulty needle that does not knock over properly may cause a local load-up, since there is considerable relaxation of weight on the neighboring needles. Similarly, irregular or faulty yarn is often the cause of load-ups and press-offs. If the yarn breaks after it has been knitted in, a hole results. The pull on the needles above this hole is relaxed, and the needles may either load up or press off.

Unless these faults are checked at an early stage, they are likely to cause trouble. The method generally used to remedy them is to apply some additional weight to the fabric at the place where the fault occurred, by means of danglers. A dangler usually consists of a latch needle hooked into the fabric and a weight tied on it.

The weight in this case, however, acts only at one point; and the fabric is likely to break at that point. A more efficient dangler is shown in the accompanying sketch. It consists of a metal comb with hooked steel teeth. The comb is bent according to the curvature of the machine, and the spacings between the hooked teeth correspond to the machine gage. A weight can be suspended from hole a.

The comb is hooked in between the cylinder and dial needles where the load-up has occurred, and a weight is added to pull the loops down. In the case of a press-off, the empty needles are allowed to take up yarn for two or



A DANGLER to act as a holding-down sinker on a circular rib machine can be made as shown here. The dangler comb is curved, and the spacing of the hooks corresponds with the machine gage. A weight can be suspended from hole a.

Below is announcement of a greater KINK CONTEST you can enter NOW. Kinks to be published starting with this issue will be judged as outlined in the rules below.

$200 for Best Kink in 1949
$25 for Best Kink Each Month
In Addition to Space Payment on Acceptance

You undoubtedly know of many kinks and short cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your kink may win the $200 check for the best kink of the year or the $25 check for the best kink of the month, maybe both!

Send in your kink now. There is always a contest going on. The more good kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it—we will pay you extra if you do and we can use it.

Look over the kinks in this and other issues. You will get ideas you can use as well as inspiration for kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

Your published kink will be judged impartially by other mill men. In case of ties, duplicate prizes will be awarded.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $200 prize contest for the year. Monthly contest confined to kinks published that month, yearly to those published in calendar year 1949.
3. All kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred kinks in each issue. Their votes will select the best kink, and their decision will be final.

Send kinks to whichever address you prefer:

TECHNICAL EDITOR, TEXTILE WORLD
330 W. 42nd St., New York 18, N. Y.

ASSOCIATE EDITOR, TEXTILE WORLD
P. O. Box 1641, Columbus, Ga.

NEW ENGLAND EDITOR, TEXTILE WORLD
P. O. Box 305, Salem, Mass.

three courses and the comb is hooked in afterwards.

The machine is turned by hand for a few revolutions until every needle has knocked over its old loop. Then a few inches of fabric are knitted. When there is enough pull on the fabric at the defective spot, due to the action of the drawing-off rollers, the hooks are disengaged and knitting is carried on in the ordinary way. *(K-1141) Joseph Rab, Leicester, England*

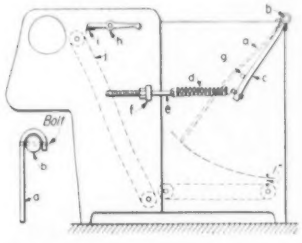
Prevent Wood Decay

Wooden cabinets, lockers, and tool benches sometimes rot around the floor because of high humidity and moisture seeping along the walls and floor. If such fixtures are raised and tile or concrete blocks placed beneath them, air passage will keep the wood dry and prevent decay. *(K-1153)*

Bramwell Feed Box Feeds Under Pressure

Laps of uneven weight will be made if uneven feeding of the Bramwell automatic feed box is permitted. If the supply of stock in the box runs low, light work will be made. If the supply is heavy, more stock will be fed, and heavy work will result. An evener motion on the box helps to keep the lap more even, but it does not eliminate the fault of heavy and light feeding.

The presser plate shown in the accompanying sketch acts as a compensator to regulate the pick up of stock by the feed apron. It eliminates uneven feeding. The box can be filled to capacity and run almost empty, with a minimum of variation in the amount fed.



A BRAMWELL automatic feed box will deliver stock more evenly if presser plate a is installed in the box. The plate holds stock against the inclined apron with more even pressure than the weight of the stock alone. As stock feeds low in the box, spring d moves a forward toward the inclined apron.

In most mills, a tender feeds seven boxes. A presser plate in each box permits the tender to throw in enough stock at each feeding to run the box ½ hr. longer than the usual feeding will run it. This heavier loading makes it possible for him to feed ten boxes instead of seven.

The presser plate is made of fairly heavy sheet metal. It is placed inside the feed box, as shown at a in the sketch. It is wide enough to extend across the box above the bottom feed apron and long enough to reach to within 1 in. of the bottom apron when it is in a vertical position. It is bolted at the top to rod *b*, which extends along the upper back edge of the box.

Rod *b* is 1¼ in. in diameter. It is mounted on the feed box by means of two bearings that permit it to turn in the manner of a hinge bolt.

When the tender throws stock into the box, presser plate *a* is forced downward, turning on rod *b* as a hinge. Plate *a* can be forced down until it reaches a vertical position against the back of the box.

As the machine runs, feeding stock up the inclined apron, the pressure of stock against *a* lessens. Then *a* moves forward and up gradually, maintaining steady pressure against the stock and forcing it to feed to the inclined apron.

The upward and forward pressure of *a* is controlled as follows:

Lever *c* is bolted to one end of rod *b* at a point outside of the feed box. When *c* is moved forward or backward, it will cause rod *b* to rotate. Rod *b*, of course, causes plate *a* to swing forward or backward.

Coil spring *d* is fastened to the lower end of lever *c*. The other end of spring *d* is secured to threaded adjustment bolt *e* and is anchored to the housing of the feed box by means of eyebolt *f*.

As the arrangement is drawn in the sketch, plate *a* has swung as far forward as it can. Setscrew *g*, screwed into the side of the feed-box housing, has acted as a stop to limit the forward travel of lever *c*, and therefore of plate *a*. Spring *d* is in its most relaxed position.

This sketched position of *a* would be the position in which *a* would be when the feed box is empty or nearly empty.

If the box were full of stock, *a* would be forced back toward the back of the box until it reached a vertical position. Lever *c* would also swing back with *a*, and spring *d* would be extended.

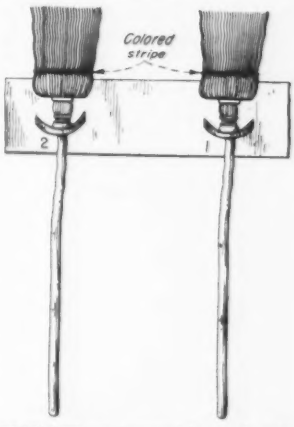
If heavy or wiry stock were being run, the pressure of *a* would need to be reduced to avoid heavy feeding. Pressure could be reduced by running the adjustment nut in front of eyebolt *f* toward the forward end of threaded bolt *e*. This adjustment would take some of the tension off spring *d*, and *a* would be pulled toward the inclined apron with less force.

The amount of pressure on a can be determined by throwing an armful of stock into the box. If the spiked inclined apron takes up the stock all right, the pressure of *a* is okay.

Another change that will help the feeding is the addition of a wooden strip to the apron comb to prevent stock from wrapping around the comb blade.

In the sketch, *h* represents the oscillating comb and *j* the feed apron. Wooden strip *i* is ¼ in. thick and 2 in. wide. It is bolted to the comb fingers and extends the length of the comb blade. *(K-1142) William Shaw, Providence, R. I.*

Keeping Check on Brooms Increases Broom Life



BROOM LIFE was increased in a mule spinning room by painting them with an identifying stripe and keeping tab on the use of brooms. Holders like these are used by spinners to store brooms when they are not in use.

Brooms don't cost much; but in a year, a dozen or so mule spinners will use enough of them to make a cost item that is worth reducing.

Normally, abuse and loss account for more brooms than wear. So, when I sought a method for saving on brooms, I tried to eliminate abuse and loss. As it turned out, the saving was well worth while.

Usually, loss of brooms occurs in two ways: one spinner will take another spinner's broom, or someone from another department of the mill will take one. In either case, a new broom must be issued.

I practically stopped other depart-

ments from taking our brooms by painting a stripe around the straw so that we could identify them at a glance. Incidentally, this practice also stopped people from our department taking brooms from other parts of the mill.

Abuse and one spinner taking another's broom were controlled by making each spinner responsible for his broom. When a new broom is issued, the spinner has to turn in his old one.

Leather holders, similar to those shown in the sketch, were mounted on the wall near the spinners' jobs. Holders were numbered 1, 2, 3, etc. to correspond with the frame numbers. When a broom is not in use, it is kept in the holder assigned to it. By looking down the line of holders, I can tell who is wearing his broom the most.

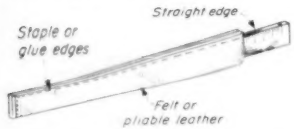
Brooms are issued to all jobs at one time, and the best of the old ones are kept on hand. If a spinner tears up his broom well ahead of the others, he has to use one of the old ones until it is time to reissue another round to all of the spinners. (K1145) Joseph Nadeau, Keene, N. H.

"Item of the Week"

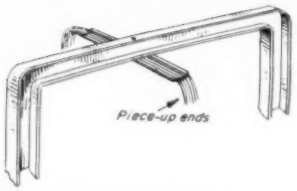
You are busy, and many important things are often forgotten. I suggest that each week you select one item, labeled "The Item of the Week," which should be fully investigated during that week.

For example, a spinning plant manager can select items such as rings, slub catchers, or spinning bobbins. An extensive study of one of these, or other similar items, will reveal something of importance each week. It will keep you fully informed and keep your men on their toes. (K-1159)

Holding Case for Rule



A HOLDING CASE for an 18- or 24-in. straightedge can be made as shown here. Use felt or thin, pliable leather such as sheepskin. Cut the length and width needed to fit the straightedge, fold it down the center, and fasten the two edges to form one side and the bottom. The edges should be glued and stapled or taped and stapled together. (K-1149) H. E. Wenrich, Berwick, Pa.



Warp Piece-up Ends Held Lengthwise the Warp

PIECE-UP ENDS for weavers are usually placed crosswise of the warp, along the loom arch. When a weaver needs one while standing on the warp side, she has to reach over the harness shafts and pick one out of the holder.

A better way to place them is lengthwise of the warp, with the holder extending over and across the harness shafts. (K-1148) H. E. Wenrich, Berwick, Pa.

New Yarn Tensometer Creates, Measures Tension

Tensioners, or methods of developing tension in yarn lines, are common in the textile field, as are tensometers to measure these tensions. Both tensioning and measuring, however, can be combined in one simple device, as shown in the accompanying sketch.

In principle, the device is a snubbing pin that tensions the yarn and acts as a lever to transmit this tension to a spring scale.

As shown in the sketch, snubbing-pin device consists of the barrel portion *a* around which the yarn runs, a lower-end hook *b* that is attached to the spring balance, and an upper-end weighting screw *c* by which the system is balanced at the pivot point. Pin *a* is fixed to a support so that it pivots along a circle of which the center is indicated as *pivot point*.

The yarn first contacts the snubbing pin at the pin's pivot point. By this arrangement, any tension that was already on the yarn is eliminated as a force acting upon the spring scale. Such tension, acting exactly on the pivot point of *a*, neither raises nor lowers hook *b*. It therefore cannot act upon the spring balance.

The yarn, as shown, is wrapped around *a* three times. Tension developed by these wrappings tends to pull hook end *b* down. Since the system is perfectly balanced at the pivot point, the tension on the yarn as it leaves the snubbing pin is the only force acting upon the spring scale.

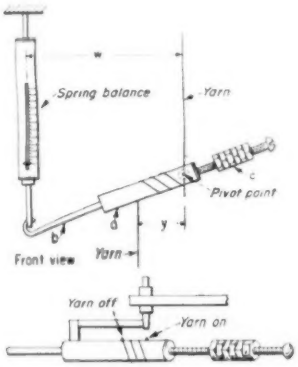
The yarn tension can be determined by the following formula: (spring scale reading × distance w ÷ distance y).

Advantages of this arrangement over conventional tensioners and tensometers include the following:

1. Tension is both developed and measured by one simple, space-saving device.

2. No forces are introduced on the yarn in addition to those normally encountered in the tensioning operation.

3. The device is easily made in the maintenance shop from readily obtainable materials. (K-1157) K. E. Trelenberg, Wilmington, Del.

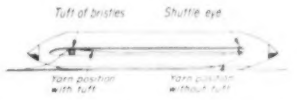


YARN TENSOMETER develops and measures tension on yarn. Snubbing pin a, statically balanced, receives yarn at its pivot point. It develops tension on the yarn by contact through three windings of the yarn around it. Tension on the yarn as it leaves a pulls a and b downward, registering the pull on the spring balance. Tension-scale reading × distance w ÷ distance y = *total yarn tension.*

Filling Held Off Race By Tuft of Bristles

Some filling yarns, such as continuous-filament glass-fiber yarn, are easily damaged by the shuttles in which they are running. When the shuttle goes into the box, with the eye end of the shuttle farthest from the cloth, the filling drops to the bottom of the box and is drawn onto the race board by the beat-up. On the next pick, the shuttle may cross the strand of filling and damage it.

One way to protect against such damage is to provide a means for hold-



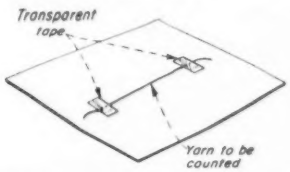
FILLING YARN is held off the bottom of the box by a tuft of soft bristles glued in the shuttle wall in the position shown here. The bristles protect the filling from damage by abrasion between the shuttle and race board.

ing the filling up off the race board between the cloth selvage and the shuttle eye. A tuft of soft bristles placed in the shuttle wall as shown in the sketch will do the job.

Near the end of the shuttle opposite the eye, drill a ⅛-in. hole in the shuttle wall. The hole should be a little lower on the shuttle than the eye. Make up a tuft of bristles from mohair or other soft, pliable fiber, and glue or peg it in the hole. Trim the tuft to the desired length.

When the shuttle is put in the loom and is picked across, the filling strand will drop onto the tuft when tension is relieved by the boxing of the shuttle. (K-1143) *Patrick Laming, Sterlingshire, Scotland*

Counting Filaments



***COUNTING FILAMENTS** is often hampered by movement of air. The slightest air current will move the end, even though it is weighted down with the magnifying glass. The filaments held down by the needle may move back to the uncounted batch or they may get lost or even break.*

A good way to hold the filaments for counting is to lay the yarn on a sheet of paper and fasten both ends with a strip of scotch tape.

Counting will be easier if two needles are used instead of one. (K-1156)

Inclined Conveyor Made for Roto-Coner

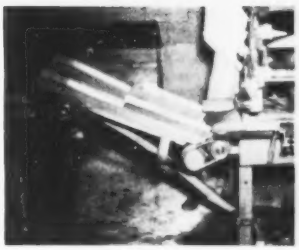
Our new Universal Roto-Coner was equipped with an empty-bobbin conveyor designed to deliver into receptacles having an over-all height of under 24 in. The standard truck used throughout our mill is 34½ in. high over all.

To eliminate the necessity of having special trucks to receive the bobbins at this winder, I made an elevator designed to deliver at the required height.

This elevator is illustrated in the accompanying photograph.

The drive required that one conveyor pulley on the winder be replaced with a pulley having a V-belt sheave on the side. This change was the only one made on the winder.

The mechanism is attached to the winder frame at three points. It is



***THE EMPTY-BOBBIN CONVEYOR** of a new Universal Roto-Coner was changed as shown here. Delivery height had to be 34½ in.—about 11 in. higher than the standard conveyor delivery point. Solution: An inclined-conveyor section at the end of the horizontal section.*

bolted to the top of the first samson on each side to allow the delivery end to swing up and down. The height of the delivery is then set by lengthening or shortening the lower angle-iron support, which is bolted to the cross support of the samson. (K-1158) *Harold McLean, Huntingdon, Quebec*

Chatter-Marked Cam Repaired With Saw Blade

The constant action of cams against knitting-needle butts causes "chatter" marks on the faces of the cams. When the wear becomes bad, it causes breakage of needle butts.

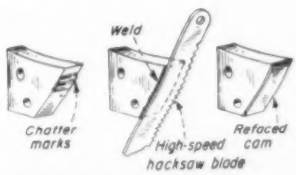
If the marks are ground off smooth, cam-face metal is lost and faulty timing may result. Of course, the best thing to do is to replace the cam; but if you do not have one on hand, there may be a delay of several days while one is obtained. In such a case, an emergency repair can be made as follows:

Grind off the chatter marks on the cam.

Weld a section of a high-speed hacksaw blade onto the cam face, as shown in the sketch.

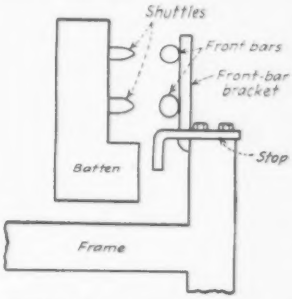
Grind the new cam face smooth; reharden and polish it.

One cam I fixed in this manner lasted 18 months. (K-1160) *Harry Wignall, Leicester, England*



***CHATTER-MARKED** knitting cams can be refaced as shown here. Grind off the marks, weld on a section of hacksaw blade, grind smooth, harden, and polish.*

Guards to Stop Batten Save Narrow-Fabric Shuttles



***SHUTTLES** in a narrow-fabric loom sometimes strike the front bars attached to the loom frame. This guard, also fastened to the front loom frame, protects the shuttles by stopping the batten when something goes wrong.*

We recently had trouble on our narrow-fabric looms with shuttles bursting. The damage was caused when a lay head, base plate, or drive arm broke and let the batten drop down or come far enough forward to hit the front bars.

I suggested putting a shuttle guard on the loom to stop the batten before any damage was done to the shuttle.

It is made of 2x½-in. flat iron and is put on the frame of the loom at each end. Because some shuttles are larger than others, we made the guard adjustable so that the batten could be stopped anywhere we wanted to stop it.

As shown in the sketch, the guard is only a piece of flat iron bent at right angles. The adjusting slot is cut in the long end of the bent piece. When it is bolted to the loom frame through the slot, the short end extends downward so that the batten will bump it if the batten tries to come forward too far.

We use two pieces of the bent flat iron to a loom. (K-1131)

Waxed Race-Plate Cover

A new felt or tape race-plate cover can be smoothed by rubbing a light coat of paraffin wax on the top surface after the cover has been attached. The wax increases wearing qualities of the cover and tends to keep the shuttle bottom in a smooth, glossy condition. When frictional heat melts the wax, it only bleeds deeper into the material.

Though paraffin is excellent on many coarse-yarn weaves, it may not prove satisfactory on fine rayon and nylon yarns. The slippery or polished surface of the shuttle may cause a slight rebound when the shuttle is checked in the box. Fine yarns of 50 to 150 den. may be harder to control. (K-1152)

Useful Accessories

FOR TEXTILE MILLS

To request further information on any item, please use the card on page C of the Reader-Service Dept.; refer to the number at the end of the item concerned.

Dyehouse Hoist

A hoist well suited to dyehouse service because of its low headroom design and ability to withstand unusually high temperatures and humid conditions has been developed by Harnischfeger Corp., 4400 West National Ave., Milwaukee 14, Wis. Available in capacities up to 15 tons, the hoist is adaptable for any monorail system and plant installation. Push-button controls, fully inclosed construction, and ball-bearing motors are also featured. (U-18)

Thermal Switch

Accurate signaling of temperature variations in heating processes is the function of a thermal switch announced by Manning, Maxwell & Moore, Inc., Bridgeport 2, Conn. The switch operates from a thermocouple input, and the output is given by electrical relay action. Temperature settings from 100° to 2,000° F. can be accommodated. Four temperature ranges are available. The unit is designed for 115- or 230-v., 50- to 60-cycle a.c. operation. (U-19)

Single-Phase Motors

A new line of integral-horsepower, single-phase motors has been announced by The Louis Allis Co., Milwaukee 7, Wis. Among the features is the replacement of the centrifugal switch by a voltage relay. This switch was formerly used to disconnect the starting condensers from the line after the motor got up to speed. The new motors are built in capacitor start—induction run types in ratings of 1 and 1.5 hp., and in capacitor start—capacitor run types in ratings of 2, 3, 5, 7.5, and 10 hp. (U-20)

Corrugated Rubber Matting

Corrugated rubber matting with a backing of sponge rubber is now being merchandised in 30-ft. rolls, according to an announcement by The B. F. Goodrich Co., Akron, Ohio. The matting is 36-in. wide, ¼ in. thick, with the matting ⅛ in. and the backing of the same thickness. Beside reducing fatigue, the product is said to absorb noises and reduce breakage. (U-21)

Industrial Signal System

A multiple-unit signal that permits a single horn to serve for many alarms has been developed by Panalarm Products, Inc., 7218 No. Clark St., Chicago 26, Ill. When the horn sounds, a set of red and white lamps light up to indicate where the trouble is. Any remote switch, thermostat, float switch, or the like can be connected to close or open the relays that energize the alarm. Many combinations of lights, signals, and acknowledging methods are available. (U-22)

Improved Caster Design

Elimination of the king-pin, long considered to be a major cause of caster breakdowns, is the outstanding feature of a pressed-steel swivel caster developed by The Fairbanks Co., 393 Lafayette St., New York 3, N. Y. A welded construction locks the curved top of the fork between the top and retaining plates so that the ball race sections remain properly aligned, even under excessive overloads. Fork design of the new caster also features an improvement. (U-23)

Screwdriver Kit

A screwdriver kit which includes a handle and five different interchangeable shanks has been announced by Vaco Products Co., 317 E. Ontario St., Chicago 11, Ill. The set consists of a shock- and breakproof, fire-safe handle with the following blades: 4x4 in.; 8x4 in.; 4x5 in.; No. 1 Phillips point, 4 in.; and No. 2 Phillips point, 4 in. All dimensions are out of handle. The kit comes in a leatherette holder with eyelets for hanging if desired. (U-24)

Portable Belt Booster

A universal booster for loading or unloading freight cars and trucks, and for elevating materials from one level to another has been developed by Island Equipment Corp., 27-01 Bridge Plaza North, Long Island City 1, N. Y. The conveyor can be fed or discharged from either end, and its angle or height is quickly adjusted by hydraulic power and hand winches. Two models, a Senior and a Junior, are available. Bed lengths are about 10 and 20 ft. for the two styles. (U-25)

Electric Fork Truck Attachments

A new pallet and a push-pull attachment for their fork trucks has been announced by Automatic Transportation Co., 149 West 87th St., Chicago, Ill. The system makes possible the mechanized shipment of merchandise without any pallets leaving the plant. A sheet of heavy paper replaces the pallet in transit. The special pallet permits lifting load and pallet together, or removing the load from the pallet. The push-pull attachment is for pushing loads off the forks or pulling them on board. (U-26)

Charts for Correct Color Application

A novel device that enables anyone scientifically to select and use color to maximum advantage in industrial painting has been announced by Arco Co., 7301 Bessemer Ave., Cleveland 4, Ohio. The device, known as the Optomic Color Compass, consists of a color-selector wheel which gives eight different color schemes applicable to mills and other buildings. The device assists in securing the full advantages of the proper choice and use of 28 "eye-ease" colors for interior painting. (U-27)

Vision Strip for Glass-Block Window

The sash for a sliding vision strip can now be installed in a glass-block window to fit conventional window openings. This innovation has been developed by the American Structural Products Co., a subsidiary of Owens-Illinois Glass Co., Toledo, Ohio, manufacturers of Insulux glass block. The new window gives vision and ventilation with single pane or double glazing. Frames are shipped completely assembled ready for glazing and installation in the glass block. (U-28)

All-Rubber-Center Coupling

The Mighty Midget—an all-rubber-center coupling designed for improved power transmission in fractional-horsepower motors, has been added to the line of Morflex couplings produced by Morse Chain Co., 7601 Central Ave., Detroit, Mich. The Neoprene center gives the bearing a much longer service life. Claims are made that it will last ten times longer than ordinary couplings in its particular power range. (U-29)

Magnetic Trap for Liquid Pipelines

A new permanent non-electric magnetic separator, developed especially for the removal of tramp iron from liquids conveyed in pipelines, has been announced by the Eriez Mfg. Co., Erie, Pa. The magnetic "traps" eliminate tramp-iron damage to processing equipment such as pumps, and assure a product free of ferrous contamination. They are available in 2-, 3- or 4-in. pipeline sizes and may be ordered with either flanged or threaded ends. (U-30)

Apron or Slat Conveyors

Special conveyors of the apron or slat type with wood or metal slats are available for heavy-duty operation on a wide range of products under unusual conditions. Heavy-duty electric motors with variable-speed devices are used in the units to give a wide range of speed with plenty of power. The conveyors are made to order in units of various widths and lengths according to individual requirements by Sage Equipment Co., 30 Essex St., Buffalo 13, N. Y. (U-31)

Round Table

FOR EXCHANGE OF IDEAS—*The Round Table is open to letters from any and all readers discussing subjects relating to mill management, production, engineering, technology, etc. Names of contributors will be held confidential if so requested, but contributions must be signed with real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table,* TEXTILE WORLD, *330 West 42nd St., New York 18, N. Y. Write your message on card in Reader-Service Department if you wish.*

Check Time-Study Results Quickly

A true time-study records every major and minor operation performed by the operative in a given time. The period usually taken is one day's work or one or more complete cycles of the operation.

A modified form of time-study and job analysis estimates the total time spent on each operation by multiplying the frequency of the operation by standard times allotted to each element of the operation. The advantages of this modified form are speed and flexibility. Its disadvantages may be serious if some timing is not done to establish the estimates. But complete time study is not necessary for such a quick estimate.

Job analysis can be applied with fairly consistent results to such operators as picker, card and drawing tenders. There are few variable factors on their jobs. Roving-frame tenders require more than a superficial timing and estimation in order to establish a job assignment and price per hank. End breakage is the main variable, and it has a great effect on the amount of work done by the operative on other elements of the job and on the efficiency of the frame.

Standard element times prove useful even when a complete time study is the basis for the analysis. Standard times permit a comparison with actual; they also detect deficiencies in operatives and probable cause of the deficiency. (This is true even when the mill does not have a point or other system which automatically shows the operative efficiencies for each day of work.)

One mill uses the following roving-frame time values (in minute per 100 units) to make spot checks of time studies and assignments:

	Slub.	Int.	Fine
Doff	15	17	14
Creel	40	27	27
Piece	60	70	90

By making a general check of the occurrence of the main elements during a day, the mill can very quickly establish deficiency in either the operative or the machine. Some of the usual causes of deficiency on roving-frame operations are: excessive end breakages (which should be traced to cause), too much time spent in creeling, or excessive doffing time. (R-479, Greenville, S. C.)

Editorial Squawk Aired at Conference

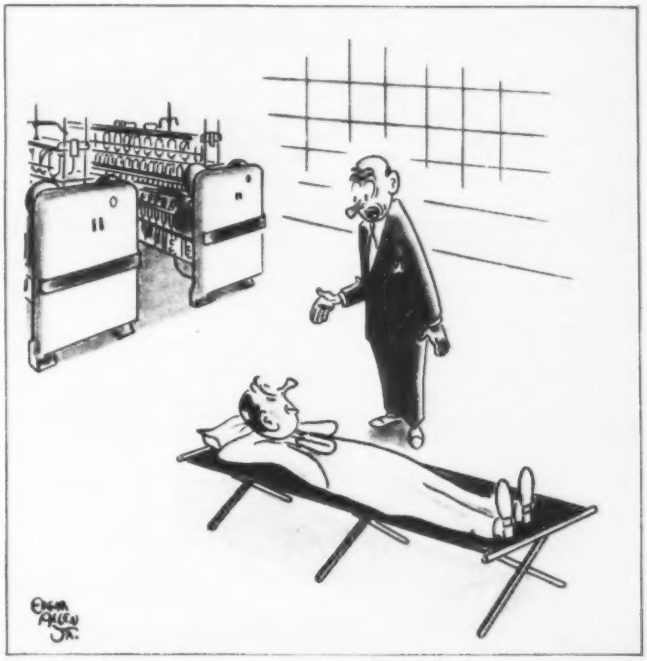
The following remarks were made by Senator Walker at the recent Spinner-Breeder Conference in Charlotte, N. C. He referred to the editorial in the May, 1949, issue of TEXTILE WORLD entitled "Spinners Should Squawk."

Many of us were puzzled to read an editorial comment in an outstanding textile publication which had to say in part that the breeders and producers of good cottons tended to dominate Spinner-Breeder Conference meetings. The implications were that our intent was to tell the spinner and perhaps the merchant what must be done.

I say with deep-felt sincerity that the cotton growers, the breeders, the ginners, the research groups and the extension people who have participated in these conferences—working to make them possible, effective, and profitable, have done so with a single objective. That objective is to cooperate closely with every part of the cotton industry and with the spinners in particular to find out what kinds of raw cottons will provide the lowest-cost production of highest use-value cotton products.

If we have erred in small ways in

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*



"That's NOT what I meant by 'paying more attention to the cats,' Nutley!"

A NEW RESEARCH MODEL

Launder-Ometer

—accommodates larger samples for more accurate shrinkage testing.

Two new models have been added to the line of Atlas Launder-Ometers that materially expand the range of tests for the determination of resistance to mechanical and washing action, shrinkage and staining, and for proving the color fastness of dyestuffs. All factors can be controlled carefully and reproduced identically at any time.

Both new units incorporate improvements in design and function, and are adaptable to larger size containers for greater general utility. Model L1Q is constructed with a capacity of 20 pint or 20 quart jars; Model L2Q with capacity for 20 pint, 20 quart, or 6 half-gallon containers. The half-gallon size jars make possible the use of larger-sized samples for more accurate testing of shrinkage resistance. Both machines can be supplied with vari-speed drive units for operation at selected speeds between 10 and 50 R.P.M.

Both Models L1Q and L2Q are equipped with the Atlas pre-heating loading table which increases the accuracy of tests by starting all samples at the same temperature.

Atlas-Ometers—Launder-Ometers, Weather-Ometers, Fade-Ometers, the standard accelerated testing machines accepted throughout the world for over a quarter of a century.

ATLAS ELECTRIC DEVICES CO.

361 W. SUPERIOR ST., CHICAGO 10, ILLINOIS

WEATHER-OMETERS • FADE-OMETERS • LAUNDER-OMETERS

Round Table

(Continued)

grappling with these problems, they are "sins of ignorance" and not "sins of malice and selfishness." If we have erred in small ways, I feel confident that the favorable, friendly and homelike atmosphere which the Southern Combed Yarn Spinners Association has provided will mean that the Sixth Annual Spinner-Breeder Conference will proceed towards full-fledged mutual cooperation and common understanding.

May I say for all of us to all of us, we have two alternatives: one is the opportunity to advance together in the further development of a vigorous and efficient cotton industry; the other, to slowly lose ground in the textile field as the rest of industry in our dynamic democracy moves ahead.

May I commend to you the part of the same editorial comment referred to above which proposes that everyone should participate more in the conference through questions, comments, and suggestions.

(R-500) *George B. Walker, Chairman Advisory Research Committee, Delta Council.*

Two TEXTILE WORLD editors attended the conference. Here is what one of them, P. M. Thomas, who authored the editorial, reported. This report was written by Mr. Thomas to his chief editor, not for publication; but we feel that it should be printed here as a valuable commentary on the conference.

"I noticed the following differences between this conference and the one last year:

"1. Breeders and U. S. Dept. of Agriculture men made a real effort to find out just what spinners want in cotton.

"2. The program was planned for greater participation by mill men. (Last year, there were 16 men on the program. Only one of them was a mill man; and he represented a sewing-thread company and was assigned the subject 'Long Staple Cotton.' This year, there were 32 men on the program. Nine were mill men and two others were from Saco-Lowell and Whitin.)

"3. From the standpoint of cotton spinners, there was a more concerted effort to seek 'mutual understanding.' Mill problems (such as leaf and grass in cotton, neps, fiber properties needed for certain uses, etc.) were freely discussed. Not once did last year's attitude of 'this is it; take it or leave it' pop up."

(R. T. continued on page 166)

Where can YOU use this new Surfax 1288?

QUESTION:

ANSWER:

Use it for faster wetting and rewetting of textile yarns and fabrics.

Use it in neutral, mild acid or mild alkaline solutions.

Use it for leveling dye baths, for package dyeing, for preparing fabrics for compressive shrinkage. And—

Use LESS of it, because it's concentrated and highly efficient. Write for Product Data Sheet and price of this newest member of Houghton's Surfax series.

E. F. HOUGHTON & CO.
303 W. Lehigh Ave., Phila. 33, Pa.
825 W. Morehead St., Charlotte 6, N. C.

$1,500 inventory abolished—at a cost of $4.46!

With more than 700 vacuum tubes needed by industry, a tube distributor would find profits consumed by 100% inventories. But by ordering tubes as needed via Air Express, he holds stocks to 25%. *Example:* Orders $1,500 tube at 9 A.M. from supplier 900 miles away. Delivered to customer 6 P.M. same day. 16 lbs.: cost, $4.46.

Remember, $4.46 *included* speedy pick-up and delivery service, too. *More* protection, because you get a receipt for every shipment. Air Express is the *world's fastest* shipping service.

Your Air Express shipments go by the Scheduled Airlines direct to over 1,000 airport cities; fastest air-rail for 22,000 off-airline offices. Shipments *keep moving* with 'round-the-clock service.

FACTS on low Air Express rates

19 lbs. of machine parts goes 600 miles for $3.54.
9-lb. carton of new styles goes 1400 miles for $3.99.
(Every kind of business finds Air Express pays.)

Only Air Express gives you all these advantages: Special pick-up and delivery *at no extra cost. You get a receipt for every shipment* and delivery is proved by signature of consignee. One-carrier responsibility. Assured protection, too—valuation coverage up to $50 without extra charge. Practically no limitation on size or weight. For fast shipping action, phone Air Express Division, Railway Express Agency. And specify "Air Express delivery" on orders.

SPECIFY AIR EXPRESS
AIR EXPRESS
GETS THERE FIRST

Rates include special pick-up and delivery door to door in principal towns and cities

AIR EXPRESS, A SERVICE OF RAILWAY EXPRESS AGENCY AND THE
SCHEDULED AIRLINES OF THE U. S.

Round Table

(Continued)

Should You Recomb Wool After Top-Dyeing?

We operate a fancy worsted mill making top-dyed fabrics for men's wear and recently asked a recognized authority whether it was necessary to recomb all lots of wool after top dyeing. We would be interested in your readers' comment upon the following brief of the authority's reply.

"In answer to your question, 'No.' It has been our experience that the advances in top dyeing afford good protection to tops while dyeing and that a lot which is neb and slub free after single combing will not be changed appreciably by dyeing.

"The chemicals in top dyeing do not injure the wool fiber. If given proper handling in kettles and backwasher, the top will be delivered in good condition. The gilling operation is the same as in any spinning plant.

"The wise purchasing agent should realize the falseness and cost of the old notion that 'any old top is good enough for dyeing, as it will be recombed anyway.'

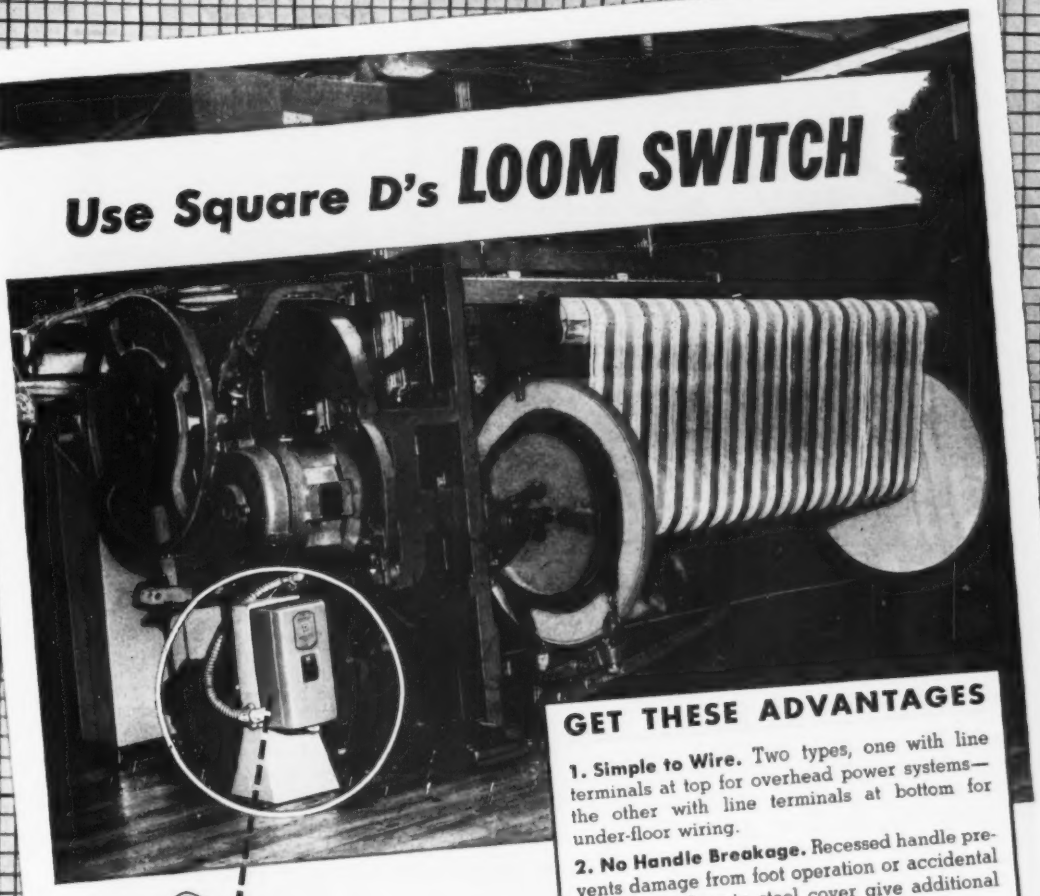
"We have seen many recombed tops with a greater number of nebs than similar single-combed lots. We have followed these lots to the finished-product stage and re-examined them. The results were the same; and they have made us cautious in the purchase of every lot, whether single, double, or triple combed. We should be able to foresee and plan our results by boarding our tops. And we do not send any old top, whether colored or in the gray, to the dyer and pay recombing charges.

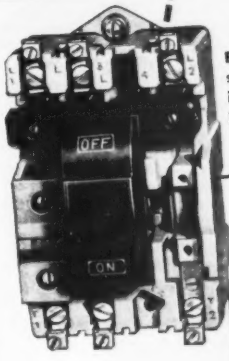
"Recombing is expensive and may not be necessary if the right material is used. Multiple doublings, blending, and even distribution of the blend throughout the lot are other factors that help make a better yarn." (*R-475, Providence, R. I.*)

Two-Ton Boulders Spewed Out by Boilers

Here's another example of how we talk about immediate symptoms of a disease and not the long-range prevention, just as we did at the recent AATCC meeting. [See R.T., June, 1949.] When I ring the doorbell of the mill to show a prosaic item like a fly-ash collector, I am requested to state my business. The brass hat finds out that I want to talk about dust collectors, and either he throws me

Use Square D's LOOM SWITCH





Basic Starter Mechanism shows toggle operator, convenient terminals, deep porcelain base, two-screw mounting strap.

Overload Relay is melting alloy, protected type.

GET THESE ADVANTAGES

1. Simple to Wire. Two types, one with line terminals at top for overhead power systems—the other with line terminals at bottom for under-floor wiring.

2. No Handle Breakage. Recessed handle prevents damage from foot operation or accidental collision. Ridges in steel cover give additional handle protection.

3. Group Fusing. Protected type overload relays allow several motors on a single set of fuses—typical of textile installations.

4. Reduced Electrical Maintenance. Deeply recessed contact chambers provide generous electrical clearances and exclude falling lint. Non-carbonizing porcelain base ideal for humid locations.

5. Safety Features. Cover cannot be removed with switch in "**ON**" position. Single padlock may be used to lock cover in place and starter in "**OFF**" position.

Write for Bulletin 2510. Square D Company, 4041 N. Richards St., Milwaukee 12, Wis.

SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

SQUARE D COMPANY CANADA LTD., TORONTO • SQUARE D de MEXICO, S.A., MEXICO CITY, D.F.

There's good quality burlap, of course, whether your job needs the famous Angus Burlap which only Bemis imports, or one of the standard grades.

But there's more than this in Bemis Burlap. There's:

1. **Good service (16 plants, plus 15 sales offices... there's one near you).**
2. **Capacity for any size order.**
3. **Dependability (worth money in the bank for you).**
4. ***Unequalled experience in burlap importing, converting and distributing, that has made Bemis' grading of Indian burlap the recognized standard for the entire burlap industry.***

BEMIS TITE-FIT BURLAP TUBING

saves time and money for those who package odd-shaped and bulky products.

WORLD'S LARGEST IMPORTER OF BURLAP

Bemis BEMIS BRO. BAG COMPANY

Baltimore • Boise • Boston • Brooklyn • Buffalo • Charlotte • Chicago • Cleveland • Denver
Detroit • Houston • Indianapolis • Jacksonville, Fla. • Kansas City • Los Angeles • Louisville
Memphis • Minneapolis • New Orleans • New York City • Norfolk • Oklahoma City • Omaha
Phoenix • Pittsburgh • St. Louis • Salina • Salt Lake City • San Francisco • Seattle • Wichita

Round Table

(Continued)

out on my alter ego or directs me to his engineer.

What is the engineer's reaction to the idea of dust collection? His first thought is of sweeping compounds and a left-handed broom. Finally, it dawns upon him that I'm talking about something to put on boilers. Something to serve a purpose somewhat beyond the reducing of the incidence of shoplifting in a grocery store. And so he saunters over to a fireman propped on a $1.89 shovel and tells him to quit spilling so much coal in the ash pit.

Maybe he points to the smokestack and cites the absence of two-ton boulders falling on the boiler-house as evidence that he has no dust problem. But, isn't he contributing to the problems of the aforementioned dyers? Pardon me, I mean chemists and colorists.

Now, let's not joke any more about two-ton boulders coming out of the stack. Let's look at some figures obtained from a Virginia paper mill to see how far-fetched this tonnage is.

The report stated, "During all tests, the appearance of the stack discharge was light gray with very little smoking."

The boiler was rated at 90,000 lb. of steam per hr. During three tests, the average loads were 66,000, 73,000, and 74,000 lb. per hr. Dust concentration was 0.51, 0.61, and 0.84 gr. per cu. ft. of flue gas. When you think that one grain is 1/7000 of a pound, you wonder about the two-ton boulders.

But, the average stack-gas volumes for the three days were 35,700, 41,100, and 41,100 c.f.m. respectively. Multiply the grains per cu. ft. by the stack-gas volume, divide by 7,000, and you get the pounds of dust per min. Warm up the slide rule and multiply by 1,440 to get the pounds per day. If you're not groggy, divide by 2,000, and see your answer in tons. Rassle with these figures for awhile; and I'll be doggoned if you don't get tonnages of 1,875, 2,575, and 3,555 respectively. And this particular plant has three boilers belching pecyu all over the place 24 hr. per day.

To get back to the point of the second part of this contribution, how many of the dyers realize that the smokestack in the rear of the plant is not there just to mark the spot? Has the dyer ever thought of that stack as spewing the makings of some of his operational worries. Maybe we should all look for the prevention of our troubles and ease up on the demand for headache powder. (R-477, *Charlotte, N. C.*)

A distinct advance in machine design— for faster, high-quality stitching at lower over all cost.

New and exclusive features embodied in this machine will immediately appeal to the farsighted and cost conscious manufacturer.

Some of these features are:

NEEDLES IN LINE — Insures even starting and finishing of seams. Accurate margin control.

INTERNAL BELT DRIVE — Built for long wear. Made of special composition reinforced with steel wire.

LUBRICATION SYSTEM — Semi-automatic, yet fully automatic in operation. Reservoir type with filtered oil fed to each bearing by capillary action through oil wicks. No manual oiling necessary.

COMPENSATING FOOT — Flexible toe and heel facilitates crossing bulky seams. Yielding sides for changing from light to medium-weight fabrics without adjustments or interchange of parts.

ARM SHAFT — Encased in a rigid eccentric sleeve bearing. Minimizes vibration and contributes to quiet and smooth operation.

For the complete story, clip and mail the coupon today. No obligation, of course.

WILLCOX & GIBBS
Sewing Machine Co.

214 West 39th St., New York 18, N.Y.

WILLCOX & GIBBS Sewing Machine Company
214 West 39th St., New York 18, N. Y., Dept. W1

Gentlemen:

Please send me bulletin No. 936 on Type 1101.

NAME.....

COMPANY.....

ADDRESS.....

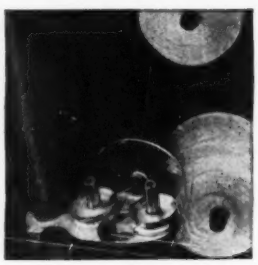
CITY.....STATE.....

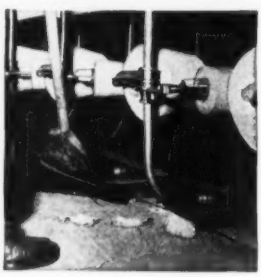
Speed your Warping

FAST LOADING—positive positioning—no snagging with McBride patented swinging arms. Smooth finish, totally enclosed ball type positioning lock and completely recessed set screws eliminate all obstructions that might snag ballooning yarn.

GREAT VERSATILITY is provided by both the basic design and the carefully planned detail of McBride Magazine Creels. Assembly can be varied with yarn coming down either inside or outside for draw-off over end. Equipped with spindles for tubes or universal metal cone holders, this creel eliminates the necessity for wooden plugs. Double post disc type tension units with recessed hex heads provide positive adjustment without danger of marring finish with pliers or wrenches.

EASY CLEANING, even when fully loaded, is assured by McBride monorail construction. Achieved without loss of strength or rigidity, this design gives complete access from both sides, eliminating objectionable "lint pockets."





Write today for the *new folder* on McBRIDE Creels, Rolls and Loom Beams

Manufacturer for the Textile Industry

Mc BRIDE

Edward J. McBride • 1400 Adams Ave. • Philadelphia 24, Pa.

CREELS *for every purpose,* WARP BEAMS • FLANGES • ROLLS

Questions AND Answers

Embossing Calender Should Be Started Properly

Technical Editor:

Please give me any information you can about embossing calenders; such as how to break one in, how to remove marks from the paper roll, etc.

I would also like to know how you would run: (1) a multifilament flat crepe about 5 yd. per lb., made of 62% acetate and 38% viscose; (2) an all-viscose flat crepe; and (3) an all-acetate flat crepe. I am very interested in the speed, temperature, etc. in running these fabrics. (9310)

First of all, be sure that the embossing calender is placed on a good base, preferably a concrete floor. Vibration can cause tendering of the cloth.

For breaking in the calender, first heat the steel roll and allow it to run about 20 min. The heating line should be 30 lb. of steam pressure. After it has run about 20 min., the steel roll should be heated evenly to about 250° F. The preliminary heating will allow the steel roll to expand to its proper dimensions.

Soak a rag or sponge in hot, soapy water, and wet the paper bowl evenly all over. Next, apply the pressure of the paper bowl against the steel roll to dry out the paper bowl and give a new, clean setting. This operation of wetting out the bowl should be repeated several times an hour for three or four hours before any cloth is run. When the machine is finally in production, it is well to wet it out at least once or twice every day. After the calender has been broken in, the cylinder must be brought up to heat before the set is applied.

A steam box should be installed ahead of the nip so that the cloth gets a small amount of steaming before it enters into the nip. Do not have too much tension, particularly on the let-off side. The tension should be regulated on both ends so that the goods just remain smooth.

It is a good idea, when the machine is started, to stop at the first seam and have the goods tested, both warp

You can count on Santomerse No. 1 for the thorough penetration you need for level dyeing of yarns on packages and beams. It is economical. As little as from two to eight ounces per hundred pounds of yarn is needed for efficient penetration.

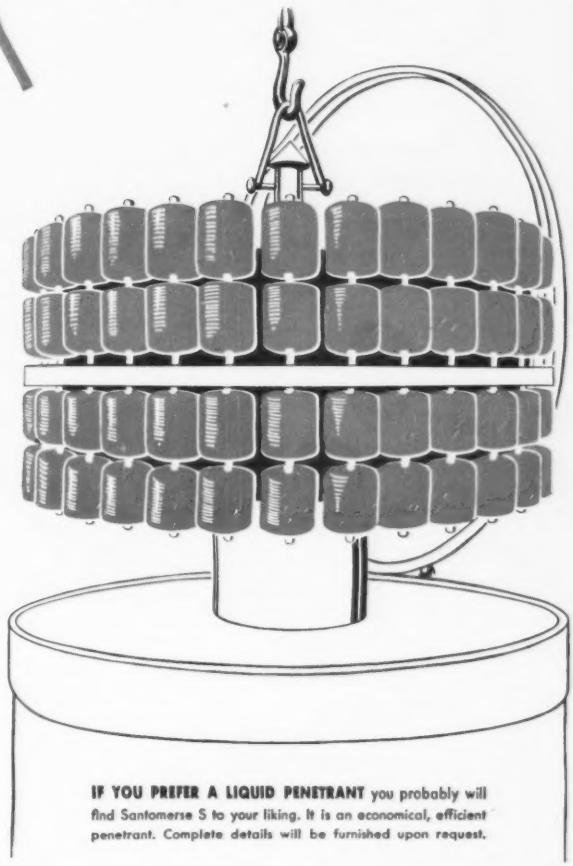
Santomerse No. 1 is effective in hard or soft, hot or cold water and in neutral, acid or alkaline solutions. It does not form insoluble curds that hamper your operations and lower the quality of your product.

Santomerse No. 1 is giving excellent service in the textile industry, not only in beam and package dyeing but wherever an efficient detergent, penetrant or dispersing agent is required.

Try Santomerse No. 1 in your beam and package dyeing. For complete details on this efficient, economical penetrant, mail the coupon, contact the nearest Monsanto Sales Office or write: MONSANTO CHEMICAL COMPANY, Desk G, Phosphate Division, 1780 South Second Street, St. Louis 4, Missouri.

SANTOMERSE No. 1

...efficient, economical penetrant for package and beam dyeing



IF YOU PREFER A LIQUID PENETRANT you probably will find Santomerse S to your liking. It is an economical, efficient penetrant. Complete details will be furnished upon request.

*Reg. U. S. Pat. Off.

MONSANTO CHEMICALS

MONSANTO CHEMICAL COMPANY
Desk G, Phosphate Division
1780 South Second Street, St. Louis 4, Missouri

Please send items checked: Data and quotations on ___Santomerse No. 1; ___Santomerse S.

Name_____ Title_____

Company_____

Street_____

City_____ Zone___ State_____

SERVING INDUSTRY . . . WHICH SERVES MANKIND

MONSANTO DETERGENTS AND WETTING AGENTS

- Santomerse* No. 1
- Santomerse No. 3
- Santomerse No. 3 (Paste)
- Santomerse 30X
- Santomerse D
- Santomerse S
- Sterox* CD
- Sterox SE
- Sterox SK
- Sterox 3
- Sterox 6

"I CUT HOT WATER COSTS ONE-THIRD!"

"saves us 10,000 gallons of water a day."
"We eliminated our water storage tanks."
"we burn 25 to 40 gallons less oil per day."
"Paid for itself in 10 months."
"Saves us 30% on coal"
"It cut our water bill 30%."

Get Any VOLUME of Hot Water INSTANTLY

...at desired temperature

Hundreds of owners and operating engineers endorse the PICK Instantaneous Steam Injection Heater. They get a dependable supply of hot water at constant uniform temperature . . . smooth, QUIET injection at all volumes . . . instant temperature adjustment . . . automatic heating of large or small quantities of water as needed. Seven sizes (10 to 200 gal. per min.). Patented "Pressurizer Piston" assures trouble-free performance. Investment is small. Easily, economically installed in old or new systems. Write for Bulletin WH-11.

PICK MANUFACTURING CO.
479 Alan Avenue., West Bend, Wisconsin

Pick
STEAM INJECTION
INSTANTANEOUS HEATERS

Questions and Answers

(Continued)

and filling, for any trace of tenderness. Actually, the goods should not lose any strength after embossing. If there is sign of tenderness, the best thing to do is to soak the bowl again, possibly four or five times in the course of an hour, and then start up again.

Should any marks develop on the paper bowl due to creases or hanging threads, they can be removed by re-wetting the bowl. It should always be remembered that the machine should be kept in mesh even when the pressure is off.

It was formerly thought that an embossing calender could operate only at about 15 to 20 yd. per min. Actually, they can be operated at slightly over 40 yd. per min. and still give good results. The temperature on the cylinder should be around 250° F.

As to the proper way of running the three different fabrics, all of them can be run the same way. No change in temperature or speed would be needed for the various fabrics. It is doubtful that any effect will take place on the all-viscose flat crepe. Viscose crepes made of 100-den. or 75-den. yarns that have considerable twist in the filling yarns may be helped by embossing.

Small Repeat Designs Printed With Roller

Technical Editor:

I am interested in producing small repeat designs on one side of filled smooth cloth. The design will be put on with a roller as the cloth passes over the roller and then over drying cans for the final drying operation.

What I want to know is:

1. How do you keep the printed design sharp and not smudged?

2. How do you keep the cloth from slipping a trifle as it passes over the roll containing the design?

Tension on either end of the machine causes slippage. Even a roll on top of the cloth over the printing roll does not correct the slippage of the cloth as it passes through the nip. (9307)

You gave us very little information either as to the type of dye you use or the nature of the prepared cloth. We assume that you are printing a design by means of an engraved roller where the roller has a depression that picks up the color and thickener from a trough and applies it to the cloth.

Of course, a sharp-edged doctor blade should be used to remove the excessive color from the surface of the roller, and the cloth should be sufficiently absorbent to permit the print

READER-SERVICE DEPARTMENT

This four-page insert is at your disposal to help you derive increased benefit from your readership of TEXTILE WORLD. We hope you will study it, get well acquainted with it, and use it freely.—The Editors.

TO COMMENT on anything about TEXTILE WORLD, use the card below. We hope you will use it to give us your opinion, favorable or unfavorable, on any editorial material in order to help us serve you better. Use it to discuss textile-manufacturing problems, perhaps enlarging on something already printed, for publication in the Round Table department. Use it to tell us what you would like to see published to help you with your mill problems.

TO INQUIRE about any mill problem you may have, use the card below. If you have a technical question, submit it to our Questions and Answers department. Be sure to give as complete details as possible so that your question can be fully understood.

TO CONTRIBUTE kinks, textile-news notes, or other brief material, use the card below. If you have some useful idea for cutting costs, improving quality, or increasing production, enter it in our KINK CONTEST. We also warmly welcome queries as to the probability of our accepting for publication any specific articles you may contemplate writing for us.

☆

SEE
FOLLOWING PAGES
FOR ADDITIONAL
SERVICES OFFERED

USE THIS CARD

Dear Editor:

(over)

MANUFACTURERS' BULLETINS

FREE FOR THE ASKING

Reviewed here is the outstanding trade literature of the month. Items are listed one month only—no repeats. Mill executives may request copies of literature by using cards on the next page.

1. Knitters will be interested in a catalog describing a variety of seamless fabrics for men, boys, ladies, and girls recently published by Jacquard Knitting Machine Co. The Model LA, a plain circular links-and-links machine which knits seamless, plaited garments in sizes, is featured in the catalog which also pictures pullovers, cardigans, and sweaters made on this model.

2. "Oils Serve Textile Industry" is the title of the feature article in a recent issue of *Esso Oilways*. The entire magazine is devoted to textiles. There are other interesting features about the new Orion fiber, markets for sisal, the British textile industry, world trends in textiles, Italian silk, textiles in Colombia, and Dutch woolen blankets. The coverage is so wide that it makes for stimulating reading.

3. The Twin-Knitter, a machine said to be the answer to the demand for finer gages in women's hosiery, is described in a bulletin from Robert Reiner, Inc. Outline dimensions, pictures of operating parts, and elements of functioning are included. An attachment for knitting square heels is also shown.

4. Chemical analysis of special products is discussed in a folder made available by Chemical Specialties Research Laboratories. Besides listing the names of some 650 products for which analyses are available, the publication also tells how both subscribers to the service and non-subscribers can receive manufacturing formulas, past reports, and monthly reports to keep abreast of new products.

5. Do you know the inside story of production? The answers, for knitters anyway, are said to be found in a comprehensive catalog issued by Stop-Motion Devices Corp. Installations of stop-motions on many types of knitting machines are pictured and described. Accessory equipment for knitting and sewing machinery is also listed and shown.

6. Stainless-steel dyeing equipment is discussed in four data sheets offered by S. Blickman, Inc., machine manufacturers. Their fully inclosed dye box designed to keep heat and moisture in the box, and thus save fuel and water, is featured on the first sheet. The other three sheets are devoted to smaller wares such as stainless-steel buckets, dippers, and pails.

7. Stacking and loading of corrugated shipping boxes is reviewed in a booklet prepared by The Hinde & Dauch Paper Co. Pointing out that proper stacking and loading can make a big difference in profits, time, and costs, the booklet lists the fundamental rules of good storage. Suggestions on loading and unloading of freight cars and trucks, and methods of estimating and using storage space are also included.

8. Industrial switching with diesel-electric locomotives is the theme of a bulletin published by General Electric Co. Five methods of cutting switching costs are listed as lower fuel costs, lower crew costs, high availability, reduced track maintenance, and lower water expense.

9. Counts of textile fabrics and engraving screens by a new method are presented in a circular published by Micro-Lite Co., Inc. Elimination of eyestrain and instant and accurate counting are listed as prime advantages of the counter. The circular shows how converging moire lines indicate the exact count at a glance.

10. Drawing-in is made a less skilled operation with an indicator described in a bulletin issued by Titan Ltd. Component parts of the device are discussed and their functioning described. The unit uses a perforated paper roll and reflected light to indicate the proper harness to the operator.

11. Integral-horsepower motors are the subject of a booklet made available by The Reliance Electric Engineering Co. The latest selection data on precision-built a. c. motors are given. New torque and current standards recently adopted by NEMA for a. c. motors are tabulated and explained. Construction features and mounting dimensions of several types of motors are included.

12. Resistance to rot and mildew through the use of copper-8 = quinolinolate is discussed in a progress report issued by Monsanto Chemical Co. Uses of their product, Milmer 1, are given as preserving textiles, plastic-coated fabrics, and protective coatings. Concentrations and methods of application are given.

13. Testing the condition of lubricating oil is covered in a circular published by The Gerin Corp. A portable oil-inspection kit is illustrated. Simplified yet accurate methods are explained for measuring asphaltic and other deposit-forming contaminants; dirt, metal particles, other sediment, and water; acidity and changes in viscosity.

14. "Minutes that Add to Profits" is the title of a folder prepared by H. Brinton Co. Outlining a basis for profitable production, the folder describes and illustrates the maximum-feed rib body machines. Close-up view shows important details of construction.

15. A centrifugal pump of the single-stage, horizontal, split case design is described in a catalog published by Peerless Pump Division. Dimension tables, sectional views, and parts lists for ten types of pumps are given. Pictures of typical installations include a textile mill which uses such a pump for its water supply.

16. Miscellaneous products for the textile industry are illustrated and described in a brochure offered by The Formica Co. Included are warp sticks, bobbins, twisting caps, drier and dye sticks, bricket covers, fly rails and separator blades. The brochure draws atten-

---

_____

_____

_____

_____

_____

_____

_____

_____

_____

From (give real name):

.....

Position.....

Mill .....

Address .....

City.....State.....

When published print:

☐ my real name

☐ the following pen name.....

☐ or your number.

Place 3¢ stamp here

TEXTILE WORLD

330 WEST 42nd STREET

NEW YORK 18, N. Y.

McGraw-Hill Publishing Co., Inc.

tion to the chemical and mechanical properties of Formica, a laminated-plastic product.

17. Multibreaker loadcenters are the subject of a leaflet announced by Westinghouse Electric Corp. The purpose of the leaflet is to announce the availability from stock of these additions to the company's line. Advantages of the loadcenters over fused equipment are discussed, and new design features are described.

18. A high-speed spooler, designed for accurate spooling of all types of yarn on 4-oz. to 24-oz. bobbins, as well as for redrawing and skein winding, handling yarn on cakes, cones, pirns or skeins, is described in a new bulletin from U. S. Textile Machine Co. Features of the spindleless-drive machine are pictured and fully described.

19. Examples of sound engineering are given in a brochure prepared by Lockwood Greene Engineers, Inc. The brochure briefly describes the engineering of construction projects which are designed and supervised to completion.

20. Laminated plastics for the textile industry are reviewed in a folder offered by Synthane Corp. Among the products described are: hosiery-examining forms, redraw tubes, redraw caps, drier poles and dye sticks, nylon-sizing bobbins, hosiery-carrying boards, and skein-reel tube bars.

21. The old woman who lived in a shoe knew a thing or two about thread, according to a folder published by Haskell-Dawes Machine Co., Inc. They present facts about the overwhelming use of thread in today's shoe industry. There is also a section on their twisters, creels, and twisting units.

22. Group-washing equipment becomes even more important in summer heat. Bradley Washfountain Co. has published an attractive folder which shows their line of washfountains and accessory equipment. A condensed table of specifications lists both foot- and hand-operated types which accommodate 3, 6 or 10 users.

23. Handling without pallets is outlined in a catalog issued by Hyster Co. Bales, boxes, bundles, bags, barrels, and oil drums are claimed to be efficiently handled by the fork-truck attachment. Several textile applications are pictured. Specifications of the two models—for their Hyster 20 and 40—are tabulated for easy comparison.

24. "Industrial Applications of the Ionotron Static Eliminator" is the title of a bulletin issued by United States Radium Corp. Photographs and descriptive material illustrate the extensive applications of the Ionotron in textile mills. Following a discussion of static electricity, the bulletin describes, in text and diagrams, the static eliminator.

25. Pit checking of ladies nylon hosiery is the subject of a technical service bulletin prepared by E. I. DuPont de Nemours & Co. This particular bulletin is an addition to the original and consists of a set of photographs which graphically illustrate the testing methods and equipment.

26. Protective coatings for air-conditioning equipment are described and their specifications given in a bulletin published by Buensod-Stacy, Inc. Details of the resin base, drying properties, results of service tests, and application procedure are included along with a section on the preparation of surfaces.

27. An improved warp dryer which is claimed to give efficient drying and better warp at less cost is described and illustrated in a folder published by Industrial Heat Engineering Co. Six advantages of the dryer are given. Their method of suspending the warp between fluted rolls while it is being dried is sketched.

28. A trip through the Nitro, W. Va., plant of the American Viscose Corp. is outlined in a booklet recently published by that company. Facts about rayon staple and its place in today's market, details of the manufacturing process, and a discussion of different types of rayon staple are included with the story of Nitro itself.

29. Do you have good connections? They really count when you are speaking of

CARDS ON THIS PAGE

are for the use of mill executives in writing for manufacturers' bulletins received here, as well as for additional information about items appearing in our TEXTILE EQUIPMENT NEWS, NEW DYES AND CHEMICALS, and USEFUL ACCESSORIES departments, or in the ADVERTISING PAGES.

To request copies of manufacturers' bulletins reviewed in this issue, simply write in the box of any one coupon the number preceding the item. In the case of other editorial items listed above, write in the letter and number printed at the end of the item that interests you. In the case of advertisements, enter the letter A followed by the page number; if there is more than one advertisement on that page, please add the initials of the manufacturer. In every case, we'll advise the manufacturer as to what you want in order that you may receive the reply direct from him.

Instructions

1. Fill out completely one space (name, title, company, address, and item designation) for each piece of information wanted. Put only one item designation in each square.

2. Use bottom card only if making one to four requests, both cards if making five to eight.

3. Detach, add postage, and mail.

Write in box the designation of item on which more information is wanted. ⇨ A-219 A.F.Co.

Coupon void if not filled out completely

Name of my Mill Clearview Mills

Street 130 S. Main St.

City Clearview State N.C.

My Name Wm. L. Wilson

Title Overseer

TEXTILE WORLD, New York 18, N. Y.

Write in box the designation of item on which more information is wanted. ⇨ [ ]

Coupon void if not filled out completely

Name of my Mill .....

Street .....

City ..... State .....

My Name .....

Title .....

(Good until November, 1949)

TEXTILE WORLD, New York 18, N. Y. (July '49)

Write in box the designation of item on which more information is wanted. ⇨ [ ]

Coupon void if not filled out completely

Name of my Mill .....

Street .....

City ..... State .....

My Name .....

Title .....

(Good until November, 1949)

TEXTILE WORLD, New York 18, N. Y. (July '49)

Write in box the designation of item on which more information is wanted. ⇨ [ ]

Coupon void if not filled out completely

Name of my Mill .....

Street .....

City ..... State .....

My Name .....

Title .....

(Good until November, 1949)

TEXTILE WORLD, New York 18, N. Y. (July '49)

Write in box the designation of item on which more information is wanted. ⇨ [ ]

Coupon void if not filled out completely

Name of my Mill .....

Street .....

City ..... State .....

My Name .....

Title .....

(Good until November, 1949)

TEXTILE WORLD, New York 18, N. Y. (July '49)

Place 1¢ stamp here

Post Card

TEXTILE WORLD

330 WEST 42nd STREET

NEW YORK 18, N. Y.

McGraw-Hill Publishing Co., Inc.

connections to revolving shafts or drums, according to a catalog published by Perfecting Service Co. The subject of the publication is their all-purpose, ball-bearing rotary union. Engineering data and typical applications are given for both the plain and syphon types.

30. A photoelectric colorimeter and color-difference meter for direct measure of color and small color differences in fabrics, paints, plastics, etc. is pictured and described in a bulletin offered by Henry A. Gardner Laboratory, Inc. There is a discussion of the instrument and its possible applications.

31. Precision micrometers are catalogued and described in a recent publication of Tubular Micrometer Co. Of particular interest to textile men are the calender gage for determining the thickness of textile materials, the pocket thickness gage for the inspector or workman, and the hand thickness gage for less precise measurements.

32. Bronze bars which are precision-machined and are readily made into bushings are discussed in a bulletin issued by Shook Bronze Corp. Solid bronze bars 12 in. long and ¾- to 16-in. O. D. comprise one table of specifications. Another table is devoted to bored bronze bars 13 in. long and 1- to 16-in. O. D.

33. Spontaneous ignition hazards are featured in a recent issue of the *Factory Mutual Record*. Conditions necessary for spontaneous ignition are illustrated with several examples, including textile ducts, ovens and dryers, textile waste, and sulphur-dyed textiles. Along with this issue there is an insert on safe transformer installations.

34. A condensed catalog of their materials-handling line has been prepared by Clark Equipment Co. Dimensions, weights, capacities, and turning radii are given for all models, both gas-powered and electric-battery powered. Fork-lift trucks, towing tractors, and Tructractor models are included.

35. Stainless-steel tanks are featured in a folder published by Metal-Glass Products Co. Three basic types of tanks are described along with information about jacketed tanks, horizontal tanks, and stock pots. A new, jacketed tank for rapid cooking or cooling is described in detail.

36. Plasticisers of all types are the subject of a comprehensive booklet prepared by Monsanto Chemical Co. The introduction includes information on how a plasticiser works and what it is. Physical constants and specifications of many plasticisers are included in the catalog. There is a very interesting and compact table showing the comparative properties of the various plasticisers.

37. A glass-electrode PH meter featuring full a. c. operation is described and illustrated in a bulletin published by National Technical Laboratories. Among the subjects discussed are: simplified operation, complete temperature compensation, accuracy and stability, variety of electrodes available, and operational conveniences.

38. Chlorine-dispensing units of the dry-vacuum type are featured in a catalog issued by Fischer & Porter Co. The chlorine flow sequence in the dispensing system is pictured and discussed. Essential elements of the system are described in detail. Such items are: the chlorine filter, pressure gage, the Rato-Chlor system, the ejector, and the evaporators.

39. Where will you be if there are no profits? This question is posed in a recent issue of the *Warp Sizing Specialist*, publication of Charles B. Johnson. Besides the discussion of this important question of government policy, there are interesting articles on the expected rayon production next year and the problem of financing in the textile industry.

40. Moisture testing is the subject of a bulletin published by Brabender Corp. The company's semi-automatic tester is shown and the important features are pointed out. A section on the modern features of the tester includes data on temperature control, accuracy, drying-chamber construction, and balance mechanism.

41. Ready-mixed aluminum paints and their method of manufacture are described in a brochure made available by Aluminum Industries, Inc. Among advantages listed for the paints are high durability, high hiding power, resistance to heat, and resistance to moisture. Specifications of 15 types of aluminum paint are given.

42. A lubricated plug-valve catalog has been prepared by H. K. Porter Co., Inc. Consisting of dimensional drawings, tables, and descriptive matter, the new catalog covers the company's complete line of plug valves. A full-page cross-sectional view of the valve gives a remarkably clear description of its operation.

43. The Uxbridge automatic tacker is described and illustrated in a folder issued by Bachmann Uxbridge Worsted Corp. Performance data include speeds and comments on efficiency. Operator's duties are given in a section on operation, and a final page is devoted to specifications of the new unit.

44. "Wealth of fabrics from cotton waste!" That is the claim of an interesting article in a recent issue of **Platt's Bulletin**. There is a discussion of the various types of cotton waste, the machines available to process the material, and pictures of the final products.

45. A yarn-conditioning system for cotton, wool, worsted, rayon, or mixtures is described in a bulletin published by Kearny Mfg. Co., Inc. Called "Hygrolit," the system claims to have made a science of chemical yarn conditioning. Effects on spinning, warping, weaving, and knitting are discussed.

46. Standardized load-center unit substations are featured in a bulletin made available by Allis-Chalmers Mfg. Co. The bulletin includes a simple and flexible nomogram which makes it easy to select the correct air circuit breaker for any application of a standardized load center unit substation. Sizes and dimensions of the main parts are given along with space requirements of standard equipment.

47. Cutting-room appliances are presented in compact form in a folder prepared by Cutting Room Appliances Corp. The folder includes literature on electric and manually operated cloth-laying machines, measuring and inspecting machines, and sectional cutting tables.

48. Machines for elastic-attaching operations are described and illustrated in a bulletin prepared by Willcox & Gibbs Sewing Machine Co.

49. Enclosed blending feeders for use in the processing of cotton, wool, and synthetics are featured in a folder published by Salisbury Iron Works, Inc. General specifications are given and there is a section on standard and special equipment. Features of two models—the SBF-1 and the SBF-2—are listed and the units pictured.

Place 14 stamp here

Post Card

TEXTILE WORLD

330 WEST 42nd STREET

NEW YORK 18, N. Y.

McGraw-Hill Publishing Co., Inc.

Write in box the designation of item on which more information is wanted.

Coupon void if not filled out completely

Name of my Mill.....

Street .....

City.....State.....

My Name .....

Title .....

(Good until November, 1949)

TEXTILE WORLD, New York 18, N. Y. (July '49)

Write in box the designation of item on which more information is wanted.

Coupon void if not filled out completely

Name of my Mill.....

Street .....

City.....State.....

My Name .....

Title .....

(Good until November, 1949)

TEXTILE WORLD, New York 18, N. Y. (July '49)

Write in box the designation of item on which more information is wanted.

Coupon void if not filled out completely

Name of my Mill.....

Street .....

City.....State.....

My Name .....

Title .....

(Good until November, 1949)

TEXTILE WORLD, New York 18, N. Y. (July '49)

Write in box the designation of item on which more information is wanted.

Coupon void if not filled out completely

Name of my Mill.....

Street .....

City.....State.....

My Name .....

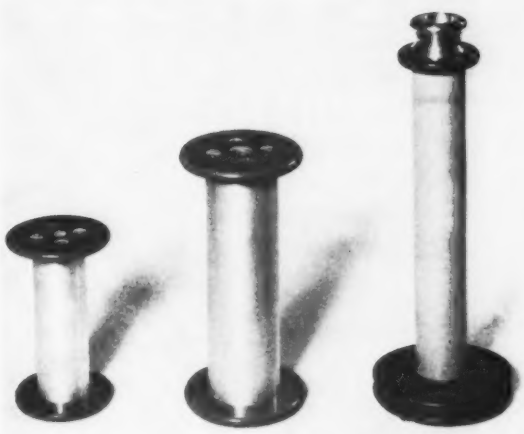
Title .....

(Good until November, 1949)

TEXTILE WORLD, New York 18, N. Y. (July '49)

Lestershire *Unit Construction*

Assures Longer Spindle Life and Longer Bobbin Life . . . . at Today's High Spindle Speeds



—because Lestershire Unit Construction (Pat. applied for) assures concentricity, you get longer spindle life and longer bobbin life at today's high spindle speeds.

HOW LESTERSHIRE UNIT CONSTRUCTION ASSURES UNIFORM BALANCE BY CONCENTRICITY

Barrel and all parts are finished with a tolerance of .001 and locked permanently in place, centered on the spindle bearings.

All materials used are stable materials of uniform density, impervious to moisture or usage changes.

It's an engineered construction that makes certain of long bobbin life and protection for your costly spindles.

Install Lestershire Unit Construction Bobbins on one of your frames and draw your own conclusions.

Write for descriptive details of Lestershire Unit Construction Bobbins

LESTERSHIRE SPOOL & MFG. CO.
JOHNSON CITY, NEW YORK

Branch Offices and Technical Service

R. B. Dorman—1000 Peachtree St., Atlanta, Ga.
Joseph H. Windle, Jr.—231 So. Main Street, Providence 3, R. I.
Odell Mill Supply Co., Greensboro, N. C.
Greenville Textile Supply Co., Greenville, S. C.
W. S. Taylor, Inc., 52 Vanderbilt Ave., New York 17, N. Y.

LOWELL

SHUTTLES

DOGWOOD OR
PERSIMMON—
FIBRE COVERED
OR PLAIN

BOBBINS

MAPLE, BIRCH
OR BEECH

A HALF CENTURY OF EXPERIENCE

Experience is the best teacher and this company has had half a century of it in manufacturing shuttles and bobbins for all fibres.

All wood for Lowell Products is well seasoned and kiln dried. Every operation is performed in our own shop to control quality and speed up deliveries. Any desired finish can be furnished. May we hear from you?

LOWELL SHUTTLE COMPANY

Established in 1896

15 TANNER STREET · · LOWELL, MASS., U.S.A.

Questions and Answers

(Continued)

ing paste to penetrate rather rapidly. The blade should be kept clean, and the printing medium should be of such a nature that it will not "gum" nor dry out on the edge of the color doctor.

In conventional cloth printing, the cloth usually travels around a large cylinder. The cylinder is lapped; and between the cloth to be printed and the lapping, there is interposed a printing blanket and a back gray to form a cushion. The printing roll, small in diameter compared to the lapped cylinder, is forced against the cloth with considerable pressure so that the color in the engraving will be transferred to the goods. The back gray takes up any excess color at the edges of the roller, as well as any that may be forced through the fabric being printed.

Slipping of the cloth is prevented by means of tension bars located ahead of the lapped cylinder. The cloth usually travels a reasonable distance before it enters the nip made by the print roll and this cylinder. By varying tensions on the entering end of the print machine, it is possible to prevent slippage in the nip, provided there is a sufficient distance to lay the cloth smoothly on the central cylinder.

Moving Drop Wires Seldom Need Cleaning

Technical Editor:

Can you supply us with information on cleaning drop-wires on the loom where acetate and rayon warps are handled? We are not certain whether there is a satisfactory method. (9311)

If the drop-wires are kept moving they do not have a chance to accumulate much dirt. Moving the stop-motion frame back toward the harnesses and adjusting it for height so that the frame is a little below the warp line will cause the wire to rise and fall with the movement of the harnesses. A rise and fall of ½ in. will be sufficient.

Cleaning drop-wires in the loom would have to be done at a cut mark. Even then, it is doubtful that any satisfactory solvent could be used without damaging the warp yarn.

There would also be danger of not removing all of the solvent and having it cause stains after the start-up.

Small-Diamond Pattern With Eight Harnesses

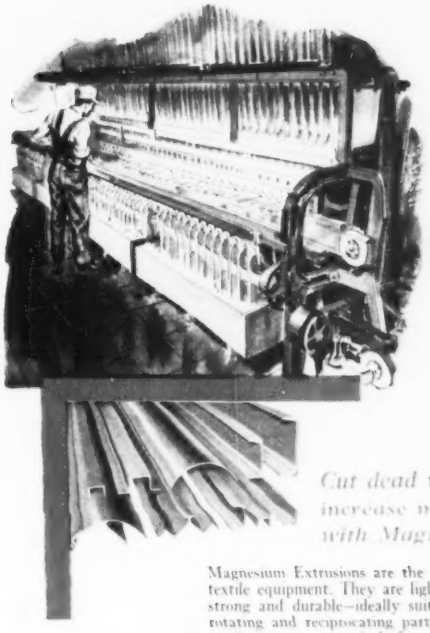
Technical Editor:

We are inclosing a swatch of cloth and

Lower costs and increased operating efficiency result when equipment is made appreciably lighter with Dow

MAGNESIUM

the world's lightest structural metal!



Textile machinery is no exception! If you are trying to cut excess pounds from your equipment without sacrificing needed strength and durability, there's one material that stands head and shoulders above all the others for that job. It's magnesium, *the world's lightest structural metal.*

Magnesium is 33⅓% lighter than aluminum, its closest rival —75% lighter than steel. Yet, for all its lightness, magnesium is a thoroughly sound material and is easily worked by conventional shop methods.

Many leading manufacturers in the textile industry know the importance of keeping dead weight down to an absolute minimum. They've seen how lighter parts reduce vibration—cut down-time and power requirements. That's why these men are putting magnesium to good use wherever they can. It will pay you, too. Write for more complete technical information and for your free copy of "How Magnesium Pays", a book filled with actual case studies of how magnesium is being used profitably in products today.

THE DOW CHEMICAL COMPANY • MIDLAND • MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit
Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle
Dow Chemical of Canada, Limited, Toronto, Canada

Cut dead weight—
increase machine speeds—
with Magnesium Extrusions

Magnesium Extrusions are the obvious choice for textile equipment. They are light, yet remarkably strong and durable—ideally suited for high speed rotating and reciprocating parts. Magnesium Extrusions are economical from a manufacturing standpoint, too! Many intricate shapes which cannot be *produced by other methods are extruded in* magnesium, eliminating the costly necessity of forming or fabricating from standard shapes.

Lighter Products Sell—make your product Magnesium Light

when you need
STIFFNESS

THERE are three Onyx water dispersions of synthetic resins for use on finishing operations involving sizing, stiffening and impregnating . . . all based on linear addition polymerization resins which do not require curing or heating. Goods are treated in the usual manner with no changes in equipment.

Xyno Resins contain no solvents. They are stable at all dilutions. They will not putrefy . . . and impose no hazards of toxicity or inflammability. They are compatible with alkalies, dilute acids and hard water.

XYNO RESIN AA40 is a water-thin dispersion of moderate particle size. It is a general purpose finish for cotton, rayon, acetate and nylon constructions of particular value on ribbons and piece goods. Many interesting effects in crispness and springiness may be obtained by combining Xyno Resin AA40 with Onyx NCF Paste or Liquid Resin SS.

XYNO RESIN S69 is a water-thin dispersion of fine particle size. It offers the best wash resistance of all Xyno Resin dispersions. It is used to impart a wide range of sizing and stiffening effects on all types of textiles. It improves wear resistance, decreases slippage, and has a dulling effect on acetate.

XYNO RESIN 362 is a viscous water dispersion of relatively large particle size. It is used on cotton, rayon acetate and nylon constructions to impart a wide range of stiffness from extreme to moderate. It is unusually successful on ninons, marquisettes and organdies. Further variety in effects may be obtained by using Xyno Resin 362 in combination with Onyx softeners like Mapromol HSY.

Write for Onyx Technical Bulletin TX-2 which covers the theory and application of all Onyx Resins, Xyno Resin Dispersions and Solutions.

onyx

CHEMICALS FOR DYEING AND FINISHING

ONYX OIL & CHEMICAL COMPANY

JERSEY CITY 2, N. J.

CHICAGO • PROVIDENCE • CHARLOTTE • ATLANTA

In Canada: Onyx Oil & Chemical Co., Ltd. Montreal, Toronto, St. Johns, Que.

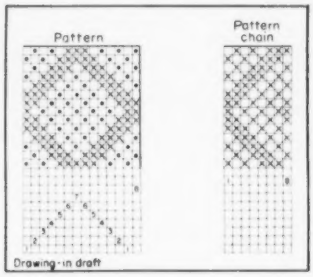
For Export: Onyx International Jersey City 2, N. J.

Questions and Answers

(Continued)

should like to know the amount of shafts required to weave it, the way it is drawn in, and the dobby lift. We should like to have information based on a diamond design smaller than the sample so that fewer shafts would be required. (9309)

This pattern can be woven on eight harnesses, or it may be cut down to seven harnesses or even fewer if a smaller diamond is desired. The drawing-in draft, dobby lift, and pattern for eight harnesses are shown in the accompanying illustration.



PATTERN AND CHAIN for weaving a diamond-shaped design with eight harnesses.

Mineral and Vegetable Oils Preferred as Coning Oils

Technical Editor:

I would appreciate comments on the following questions:

1. What are nylon and rayon coning oils usually made of?
2. What are the objections to using a petroleum oil for treating nylon and rayon fibers? (9308)

Generally speaking, coning oils are mixtures of mineral and vegetable oils. Those designed for rayon coning ordinarily contain larger proportions of mineral oil. Often, emulsifying agents are added to facilitate removal in scouring. Because static is a frequently encountered problem in the processing of nylon, it is not uncommon to find antistatic agents in coning oils designed for use with this fiber.

The difficulty of removing mineral oils in scouring is the chief objection to their use as coning oils. In spite of this drawback, they are being employed more extensively than ever. However, in recognition of the dyer's problem, such oils are usually soluble or emulsifiable. Where certain delicate woven fabrics are concerned, there is still a tendency to use saponifiable oils in preference to the use of the mineral varieties.

For Quality Products

B&C

MERCERIZED YARNS

FOR

Fine Hosiery · Underwear and Other Products

specializing in

30/2	36/2	40/2
50/2	60/2	70/2
80/2	100/2	120/2

COMBED PEELER YARNS

GASSED OR UNGASSED

NATURAL DYED OR BLEACHED

The Quality of Boger and Crawford knitting yarn is guaranteed — the highest tribute we can pay it.
Signed . . . . . .

Trustees Boger

BOGER and CRAWFORD

"J" and EAST VENANGO STS., PHILADELPHIA 34, PENNA., U. S. A.

SPINNING MILLS—BOGER CITY, N. C.

BRANCH OFFICES—BOSTON, MASS., UTICA, N. Y., CLEVELAND, OHIO

For Steel Fabrication

I Call TRUITT First

Our plant requires an enormous variety of carbon and stainless steel fabrication to keep machinery running and production lines moving. When I need something special, I don't have to make a lot of calls to ask if the job can be done, I just call *Truitt* . . . I KNOW they can do it.

Just to know that from *one* source, I can get stainless steel for use in the most delicate industrial processes, or carbon steel to cover an infinite number of plant needs when I want it, with quotations that are in line . . . makes that part of my job pretty simple.

Use *Truitt's* engineering service on your plant problems. There's no obligation.

• • •

Fuel Tanks Vats

Stainless and Carbon Steel Fabrications

TRUITT

MANUFACTURING COMPANY

• GREENSBORO, NORTH CAROLINA •

Rayon Tension

(*Continued from page 119*)

as highly removable as can be reasonably secured.

As yarn enters the sizing bath, it grows in length, and loses some strength. When it goes through the quetsch rolls, excess size is squeezed out. Some slack will develop between the quetsch rolls and the first drying drum if the surface speed of both is the same. To take up the slack and to have a sufficient tension to keep the ends in good order, thereby preventing them from rolling, the surface speed of the first drying can must be somewhat greater than that of the quetsch rolls.

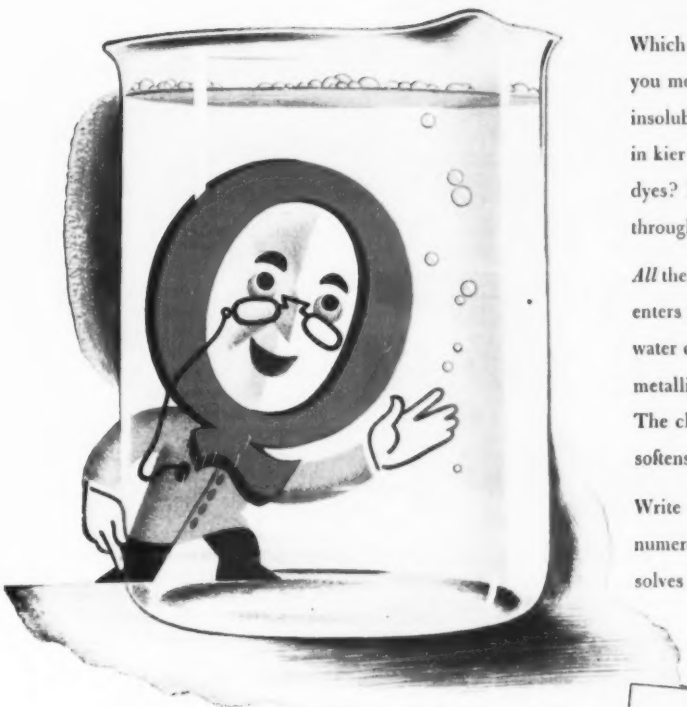
A viscose warp made of pot-spun rayon will normally gain from 5 to 6% in slashing. It readily can be stretched more than that; but again, the wisdom of this practice remains questionable. One half of the 6% gain is due to the natural growth of wet viscose, the other part to the necessity of applying some tension to keep the ends in order. While the warp dries on the heated drums, it is held in position and is, therefore, prevented from shrinking. (The 5 to 6% figures are for pot-spun yarn; continuous-spun yarn elongates less.)

In slashing, 200° F. is the highest temperature acceptable during drying. To allow as high as 240° F. for the sake of higher production is done at the peril of level dyeing.

An obvious trend consists of operating with ever-heavier sizes. Heavy sizes seem to help raise the production; but in a great many cases, quality pays dearly for it. It seems that an increase in size invariably leads to increasing humidity in the weave shed because the ends are so heavily sized that in spite of carrying tremendous warp tensions, an overbeaten effect is present in most of the goods. The next move is to soften the size in introducing more humidity in the air. The supposedly good part of the previous size increase is thereby cancelled, and the next step can only be one of putting more size on the yarn. A vicious circle is thus being travelled.

Hard-sized ends are serious enemies of quality. Instead of bending snugly around the filling, they break sharply, causing the so-called birds eye or overbeaten effect which no method of finishing can remove. Hard sizing causes ends to be strained over short sections, thus affecting their luster. It reduces their cover power factor and augments their clash with the richer and fuller appearance of lighter-sized ends. The latter, having opened up, cover more and produce a far more desirable cloth.

A CLEAR SOLUTION TO YOUR PROCESSING PROBLEMS ... when you use QUADRAFOS*



Which of these processing problems bothers you most? Precipitation of lime soap and other insolubles in hard water? Iron stains on goods in kier boiling? Interference with metal-sensitive dyes? Poor penetration of bleach liquor through redeposited metallic soap?

All these problems disappear when QUADRAFOS enters your process water. That's because no other water conditioner is so effective in tying up all the metallic ions that are at the root of the troubles. The clear solution you get when QUADRAFOS softens the hardest water is the tip-off.

Write for the whole story of the numerous ways QUADRAFOS solves textile processing problems.

softens water without precipitation...deflocculates ...redissolves precipitates...promotes free rinsing

*Reg. U. S. Pat. Off.

ONLY WITH **QUADRAFOS** CAN WATER DO SO MUCH, SO WELL

RUMFORD DIVISION, HEYDEN CHEMICAL CORP.
Technical Service Department
11 Newman Avenue
Rumford 16, Rhode Island

Please send me further information about the use of QUADRAFOS in textile wet processing. I'm particularly interested in:

- ☐ Raw wool scouring
- ☐ Piece goods scouring
- ☐ Kier boiling
- ☐ Reducing bleach requirements
- ☐ Brighter, more uniform dyeing
- ☐ Viscosity control of printing pastes
- ☐ .....

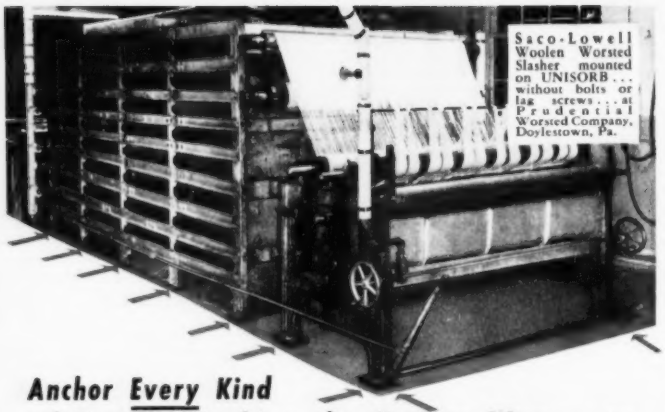
Name .....

Firm .....

Address .....

.....

City ..... *Zone* ..... *State* .....


Saco-Lowell Woolen Worsted Slasher mounted on UNISORB . . . without bolts or lag screws . . . at Prudential Worsted Company, Doylestown, Pa.

Anchor Every Kind of Textile Machine the Modern Way . . . on

UNISORB

YOU WON'T USE BOLTS . . . SO YOU WON'T WRECK FLOORS!

Unisorb frees you from old-fashioned anchoring methods. A special cement (which we supply) binds the Unisorb pads to machine feet and floor with a minimum holding strength of 1500 lbs. per square foot. It's the *proven*, up-to-date way to anchor every kind of machine on any type of floor!

Banishes destructive floor-drilling . . . Requires no maintenance . . . Not harmed by oil or grease . . . Lasts for years and years and years . . . Eliminates 60–85% of transmitted machine noise and vibration . . . Often permits higher machine speed and thus greater production.

THE FELTERS COMPANY

210-W SOUTH STREET, BOSTON 11, MASS.

Offices: New York, Philadelphia, Chicago, Detroit, Cleveland, St. Louis. *Sales Representative:* San Francisco.

Southern Representative: Industrial Supply Co., Clinton, S. C.
Southwest Representative: Textile Supply Co., Dallas, Texas
Mills: Johnson City, New York; Millbury, Mass.; Jackson, Mich., New York City

Foreign Representatives: ARGENTINA—PARAGUAY: Roberto Zander, 345-353 Juan Jaures, Buenos Aires; BRAZIL: Cia Industria E. Comercio, Glossop, Rua Visconde de Inhauma, 62, Caixa Postal, 265, Rio de Janeiro; Rua Florencio de Abreu 438-442, Caixa Postal, 1546, Sao Paulo; CHILE: W. L. Robinson, Casilla No. 4075, Santiago; COLOMBIA: C. E. Halaby & Co., Ltd., Airmail Box 650, Medellin; ECUADOR: Richard O. Custer; S. A., Guayaquil St. 937, P. O. Box 2753, Quito; URUGUAY: Roberto Zander, Montevideo Ltda., Calle Uruguay, 1711, Montevideo; VENEZUELA: Herbert Zander & Co., P. O. Box 1291, Caracas; PERU: Custer & Thommen Soc. An., Casilla 733, Lima; CENTRAL AMERICA: Agencias Unidas S. A., Apartado 391, Guatemala City, Guatemala, C. A.; MEXICO: Slobotzky, S. A., Avenida Uruguay 55, Apartado 1192, Mexico, D. F.; EUROPE: Ernst Gersbach, Zurich, Switzerland; EASTERN MEDITERRANEAN AREA AND INDIA: The Arlind Corp., 509 Madison Avenue, New York 22, N. Y.; IRELAND: Engineering Services Ltd., Albert Street, Cork.

MAIL COUPON FOR FREE BOOKLET TODAY!

Gentlemen: Please send my free copy of "Why It Pays to Anchor Your Textile Machines with UNISORB." ( )

Please send my free copy of "Felters Precision Cut Felt Parts Manual." ( )

NAME ..... TITLE .....

COMPANY NAME .....

STREET .....

CITY ..... STATE .....

Discharge Printing

(*Continued from page 137*)

a steam-filled chamber is required. The usual type of apparatus for this is a rapid ager, either of the roller or festoon type. Modern practice favors the festoon ager, which is a development of the original steaming apparatus used in the fixation of mordant dyes. For discharge prints this method avoids the passage of goods over rollers and minimizes the risk of damage very considerably. In the festoon steamer, a pawl traps the cloth on entry to the chamber, so that it is held in contact with one of a series of moving brass poles carried on a endless chain. At each movement of the pawl, a festoon of cloth is formed, which is carried forward until the pawl is released to fall again into contact with a fresh portion of the fabric, which is being automatically fed forward to the chain. In this method, the folds of the fabric do not come in contact with one another; and "marking off," or smearing, cannot take place.

In all types of steaming chambers, it is essential to avoid letting air into the machine. This requirement is usually met by the use of slight pressure, which is shown by the water gage attached to the machine.

As the required chemical reaction of reduction can take place only in solution, absorption of water from the steam supply is essential. This absorption and reduction are best brought about by the use of steam as near the boiling point of water as possible. This temperature of steam has been shown to be best for the fixation of vat dyes and for the production of white or color discharges on dyed grounds.

Spinning Practices

(*Continued from page 106*)

prevents laps but collects a lot of lint."

Mill R: "Brushes reduce drum laps about 99%."

Mill T: ". . . . very satisfactory, as we have eliminated practically all chokes."

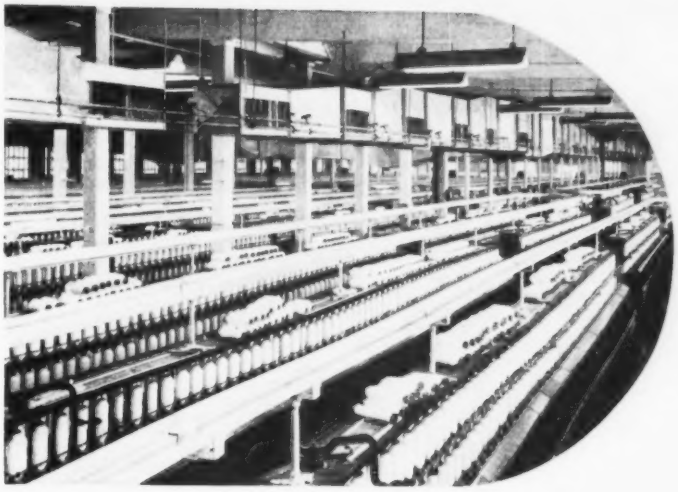
Mill Z: "This brush has eliminated laps on our spoolers."

Mill BB: "Results are excellent."

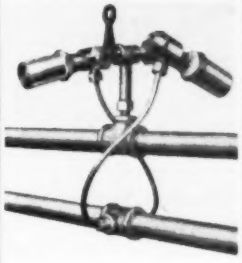
Mill FF: "Laps reduced from two per spooler per shift to one per spooler per month."

Mill GG: "Not satisfactory. Brushes reduced chokes 40%; but they accumulated a lot of waste, making it impossible to clean the spooler properly, and also created a fire hazard."

OVERHAULING FRAMES. Spinning frames in a majority of the mills are



A typical WHITE & CO. spinning room installation with dry duct system and JACKSON automatic self-cleaning Atomizers at HART COTTON MILLS, INC., Tarboro, N. C.



the

JACKSON

Automatic

Self-Cleaning

ATOMIZER

offers an economical system for producing and maintaining UNIFORM HUMIDITY throughout a given area. Can be connected to any system with 20-25 lbs. air pressure, gravity water supply. Note these

10 IMPORTANT FEATURES

1) Simple construction
2) Non-clogging
3) Non-corrosive
4) Jets and cleaning wires interchangeable
5) Maintains full capacity
6) Conserves horsepower
7) Operates each time control functions
8) Minimum maintenance
9) Automatic self-cleaning
10) Uniform humidity

STOCKS OF ATOMIZERS AND PIPES ARE AVAILABLE FOR IMMEDIATE DELIVERY

Industrial Air Conditioning

NO IDLE LUXURY

Mr. Mill Operator, do you realize the dangerous risk involved when you ignore the importance of air conditioning in the successful operation of your plant? The danger is three-fold: It threatens the quality of your product, the health and efficiency of your employees, and finally the income you derive from your business. Control humidity and temperature in your mill and you control static, soilage, machine adjustment, labor efficiency, the variable quantity in regain . . . and assure yourself a smoother, *safer* running plant.

We're equipped to make surveys, design, fabricate and manufacture in our Charlotte plant, install and service complete air conditioning systems for the textile industry: (1) CENTRAL STATION SYSTEMS consisting of air washers, fans, pumps, compressors, atomizers and ducts. (2) ATOMIZER HUMIDIFYING SYSTEMS consisting of water supply boxes, controls, pipes and atomizers.

We invite your inquiries.

WHITE

AND COMPANY INCORPORATED

AIR CONDITIONING • HUMIDIFYING • VENTILATING • HEATING

1440 S. Tryon St. P. O. Box 533 Phone 7719 Charlotte, N. C.

QUICK

Pipe Reaming

THAT SAVES PIPE

RIDGID

Extra-Long-Taper Reamer won't thin, flare or split pipe

● Secret of the RIDGID's safe easy reaming is its extra long taper. With a few light ratchet turns, you whisk the burr from pipe or conduit without fear of thinning, flaring or splitting. You save time, work *and* pipe. Two sizes: No. 2, ⅛" to 2"; No. 3, ⅜" to 3." No. 2 reamer unit available without ratchet handle for use in RIDGID No. 00R threader handle. Ask your Supply House.

Reamer unit fits RIDGID No. 00R Ratchet Handle.

RIDGID

WORK-SAVER PIPE TOOLS

THE RIDGE TOOL CO. • ELYRIA, OHIO

overhauled once a year. No roll scrubbing is done between overhauling periods in most mills. Mills that do scrub rolls usually schedule it at the halfway point between overhauling periods.

Time required for overhauling a frame varied from 8 hr. to 50 hr. in different mills. The time required varied, of course, in relation to the completeness of the overhaul job and the number of spindles on the frames. Sixteen of the 27 mills reporting allow either 16, 24, or 32 hr. for a complete overhaul job.

Roll-scrubbing time varied from 8 to 21 hr. Of 22 mills that gave their time for this job, 8 allow 16 hr., 5 allow 12 hr., 4 allow 8 hr., 3 allow 10 hr., 1 allows 17 hr., and 1 allows 21 hr.

SPINDLE DRIVES. Spinning-frame cylinders have been replaced by small spindle-drive pulleys in five mills. Advantages pointed out by these mills were:

1. Decrease in maintenance cost.
2. About 10 to 15% higher speed.
3. More uniform twist as a result of more uniform spindle speed.
4. Less down-time when a breakdown occurs.

No disadvantages were given.

Heat-Transfer Principles

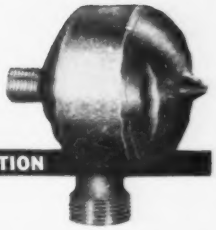
(*Continued from page 113*)

goods must be immediately taken back for regeneration from within a few inches of the goods. At the point of take-off, or suction, this air tells us a story. The temperature spread between the air entering the goods and the air leaving the goods is a direct indication of the moisture content at any given point. Through the proper placing, use, and calibration of automatic control devices, this differential can be used to govern the speed of the conveyor so as to be assured always of drying goods at the highest possible efficiency and speed. Further, an automatic means determines when the apparatus has finished drying the goods and has gone into its curing cycle.

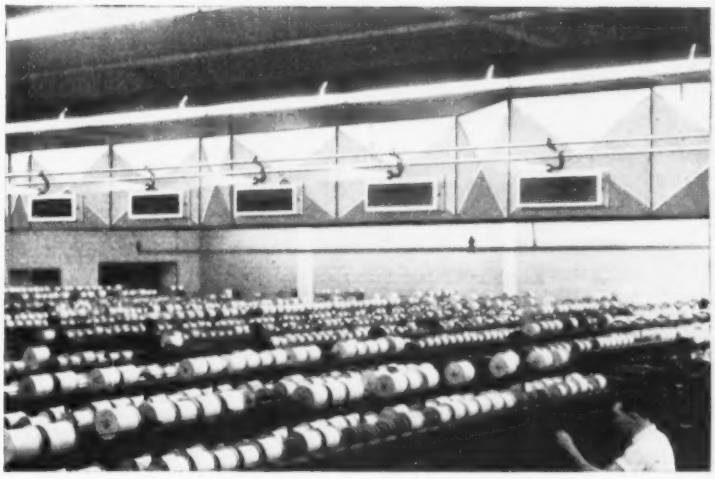
Operating efficiency can be vastly improved by varying automatically the quantity of outside purging air in accordance with the ability of the air to absorb moisture. The absorption quality of outdoor air varies both with its temperature and its moisture content, and automatic compensation pays dividends in speed and efficiency. Further, varying the quantity of outside air automatically with the rate of drying at various stages of the process results in major savings.

Automatic variation of drying temperatures at various stages, in accord-

Bahnson ECONOMIZERS



FOR HUMIDIFICATION SYSTEMS OR SUPPLEMENTARY EVAPORATION



BAHNSON ECONOMIZER ATOMIZERS USED FOR SUPPLEMENTARY EVAPORATION IN A BAHNSON CENTRAL STATION AIR CONDITIONING SYSTEM WITH REFRIGERATION

The development of the Bahnson Type ESC Economizer Atomizer was based on three established principles required for use in industrial applications.

1. Fine spray quality
2. High evaporative capacity
3. Minimum air consumption

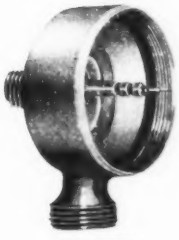
The result is this highly efficient and simply constructed atomizer that gives maximum evaporative capacity—requires minimum air consumption—provides important savings in compressor costs and operating costs. The design and construction of this unit eliminates objections found in earlier type water pressure atomizers.

BAHNSON ECONOMIZERS OFFER—

FLEXIBILITY . Various evaporative capacities and spray qualities are obtained by merely changing air and water pressures at supply points.

ECONOMY. . . Atomization is obtained through mixing compressed air with water supplied under pressure, thereby reducing compressed air requirements.

DEPENDABILITY Self-cleaning feature is included. A stainless steel cleaning pin operates in conjunction with water pressure to remove dirt from water orifice.



HOUSING AND CLEANING PIN

WATER DIAPHRAM AND VALVE STEM

SPACER RING

AIR DIAPHRAM AND ORIFICE

FRONT CAP AND WATER VALVE SPRING

S. C. STIMSON
A-3 VIRGINIAN APTS.
GREENVILLE, S. C.

I. L. BROWN
886 DREWRY STREET, N. E.
ATLANTA, GEORGIA

R. M. ANDERSON
219 WOOD STREET
CROWN POINT, INDIANA

Bahnson System
AIR CONDITIONING ENGINEERS

THE BAHNSON COMPANY
WINSTON-SALEM, N. C.

F. S. FRAMBACH
703 EMBREE CRESCENT
WESTFIELD, NEW JERSEY

R. T. HODGDON
1 CLARINA STREET
WAKEFIELD, MASS.

DEWITT CLARK
553 S. FIGUEROA STREET
LOS ANGELES 13, CAL.

SECURING THREAD ENDS ON WARP. "SCOTCH" Textile Tape No. 250 is applied to top and bottom of warp threads before slashing. Tape speeds accurate holding of threads during transfer and tying-in at loom.

No loose ends to cut your profits with this speedy tape

Speed up warping, winding, slashing operations. Fasten loose thread ends with "SCOTCH" Textile Tape No. 250. Loaded-beam threads are quickly positioned, tightly held, but easily freed without damage to the web.

This is only one of many new "SCOTCH" Textile Tapes built to industry specifications, and designed to save you time and money. Why not let one of our sales engineers show you how you can profit from this new textile tool?

Write us today for complete information. No obligation.

FREE FOLDER illustrates how "SCOTCH" Textile Tapes simplify and improve production operations. For your copy write Dept. F7.

QUICK FACTS ABOUT "SCOTCH" TEXTILE TAPE No. 250

- **FAST** — goes on with finger pressure, no special equipment needed.
- **NEAT** — will not injure any fabric, removes cleanly from all materials.
- **STRONG** — adhesive tailored to hold heavy or fine thread. Tough paper backing.
- **ECONOMICAL** — saves labor time, eliminates many former wastes.

SCOTCH BRAND Textile Tape No. 250

ANOTHER 3M COMPANY PRODUCT

Made in U. S. A. by **MINNESOTA MINING & MFG. CO.** ST. PAUL 6, MINN.

also makers of other "SCOTCH" Pressure-Sensitive Tapes, "UNDERSEAL," "SCOTCHLITE," "3M" Abrasives, "3M" Adhesives

General Export: Durex Abrasives Corp., 240 North Ave., New Rochelle, N. Y.

In Canada: Canadian Durex Abrasives Ltd., Brantford, Ontario

ance with the moisture-release rate of the goods, will yield a faster and more efficient operation.

A properly conceived and applied automatic control system will furnish a complete set of records which will enable the mill owner to analyze, and thereby continuously improve, the efficiency of his drying department.

Shirley High Draft

(*Continued from page* 127)

range of frames of different gages. In fitting the system, maximum use is made of existing parts of the frame. All three lines of existing bottom rollers are retained, together with the roller stands, slides, and cap bars. Fitting of the new system to existing frames is, therefore, a comparatively simple and speedy process.

SETTINGS. Roller setting with the new system requires some care. The system, in common with other apron systems, is sensitive to unduly high roving twist. It is recommended that if "spewing" occurs when the Shirley system is in use, attention should first be paid to the hardness of the roving twist before any alterations to roller settings are made.

The extent to which the roving twist may be reduced is, of course, limited by the running trouble experienced at the frame on which the roving is made. It is not suggested that ease of running at the ring frame should be achieved at the expense of more trouble at the speed frame. There is, however, very frequently scope for a reduction in roving twist without adverse effect on the running performance in the cardroom.

The control element (shown as *h* in the diagram) is free to move up and down. It possesses a degree of rotational mobility, but it does not rotate bodily. The end pieces bear against pegs in the guide bar, the bearing surface of the end pieces being along a straight edge located slightly above the plane of the upper surface of the apron. The control element may be turned upside down but not reversed from the position shown in the diagram.

The rigid mounting of the draft gearing and rollers is essential if yarn faults are to be avoided. Correct alignment of the bottom rollers assumes greater importance when high drafts are used. Anything interfering with the smooth and steady rotation of the drafting rollers should also, as far as possible, be eliminated.

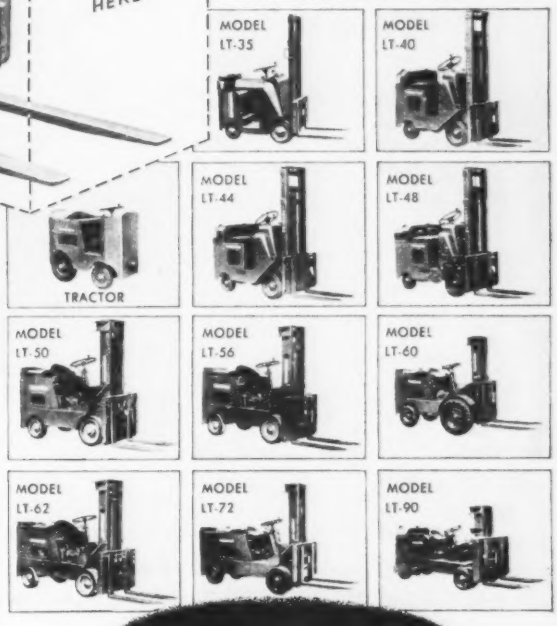
The institute has emphasized to mills that reconditioning of the spinning frame above the roller beams is advisable when fitting the Shirley, or

Get MAXIMUM PRODUCTION

from both men and machines with

TOWMOTOR MH*

*MH Is MASS HANDLING—the systematic movement of the most units, in the shortest time, at the lowest cost.

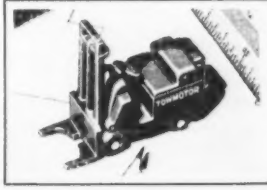


With Towmotor Mass Handling, men and production machines operate at peak efficiency. Maximum production at lowest cost is the result. Towmotor Fork Lift Trucks and Tractors, gasoline powered for full-time, full-power service, offer you every advantage and benefit of modern lift truck operation. There is a size for every type of plant, small or large. Numerous accessories and attachments further increase the adaptability of Towmotor Mass Handling to your particular handling job. Get maximum production at minimum cost all the way down the line. Use *Towmotor*, the Fork Lift Truck preferred by professional handlers everywhere.

TOWMOTOR
THE ONE-MAN-GANG

FORK LIFT TRUCKS *and* TRACTORS

RECEIVING • PROCESSING • STORAGE • DISTRIBUTION



Redesign your plant layout in miniature...

Determine in advance how you can use Towmotor Fork Lift Trucks to best advantage. Send today for

MINIATURE MODEL
TOWMOTORS
actual scale ¼" = 1' $1.00 each

TOWMOTOR CORPORATION • Division 22, 1226 E. 152nd St., Cleveland 10, Ohio • *Representatives in all Principal Cities in U. S. and Canada*

1. Brings up backgrounds to sparkling whiteness!

2. Develops the vat color to a more insoluble state!

More and more manufacturers of woven cotton colored yarn materials such as shirtings or chambrays, are turning to Pennsalt Hydrogen Peroxide (H_2O_2) in their bleaching operation.

That's because, in addition to delivering a 1-2 PUNCH, Pennsalt Hydrogen Peroxide is:

- **SAFE**—*to fabrics—high tensile strength and soft handle.*
- **ADAPTABLE**—*to modern bleaching methods.*
- **ECONOMICAL**—*on the basis of over-all costs.*
- **SUITABLE**—*for all bleaching problems.*

Textile manufacturers find Pennsalt H_2O_2 an ideal bleaching agent for wool, silk, rayon, cotton yarns and woven cotton fabrics.

Our experienced representatives will gladly help with your bleaching problems. Write: Heavy Chemicals Division, Pennsylvania Salt Manufacturing Company, Philadelphia 7, Pa.

PENN SALT
chemicals

Other Pennsalt Textile Chemicals

Caustic Soda · Soda Ash · Sulfuric Acid · Hydrochloric Acid · Chlorine · Perchloron · Sodium Hypochlorite · Chlorinated Lime (Bleaching Powder) · Carbon Bisulphide · Ammonium Persulphate · Potassium Persulphate · Anhydrous and Aqua Ammonia

any other, high-draft system. The extent to which this is necessary will, of course, vary from mill to mill and frame to frame.

The new system is being made under license by Mellowes & Co. Ltd., Oldham, Lancashire.

Half-Hose Dyehouse

(Continued from page 105)

Emphasis is being placed on development of new shades and the use of new dyes. Enlargement of the dye laboratory now affords opportunity for expanded research and development. A number of new shades have been put into process. Instrumentation is allowing better temperature control in the various processes.

NEW BUILDING. The portion of the new addition devoted to dye operations is 40 x 90 ft. The outside wall is of glass and has opening windows in each bay for additional light and air circulation. Each of four large glass-roof ventilators has a 36-in. exhaust fan to draw off vapors from the dye machines.

Dye machines are installed in two rows in the center of the building. There are six rotary-type machines: one 200-lb. capacity, one 100-lb., one 50-lb., and three 25-lb. All of these are loaded to recommended capacity.

In addition, there are nine paddle-type machines that Spalding loads at higher-than-rated capacity. These are: one 150-lb. and four 100-lb. units, each loaded 50 lb. above the rated capacity; one 75-lb. and two 50-lb. units, loaded 25 lb. above rated capacity; and one 25-lb. machine, loaded 15 lb. above rated capacity.

Each machine is individually controlled by a system of valves and Foxboro temperature controls. Each has hot- and cold-water drains. The cold water is drained to the central sewer, while all hot water is drained to a heat-reclaiming pit fitted with copper coils. Water used in the dyehouse is preheated in this reclaiming pit before going to the dyehouse boiler. The dyehouse boiler is heated by steam from the mill's central boiler plant. Substantial saving in fuel cost has been effected by preheating dyehouse water.

BRINE SYSTEM. Another plant installation that has helped operations is the central automatic brine system. A 50,000-lb. salt-storage room was built so that the mill could buy salt in carload lots. Salt is unloaded from the boxcar and moved to the storage room by a chute.

Brine is piped to each machine by means of a pressure pump. It is meas-

Rayon Reports

Published Monthly by American Viscose Corporation, New York, N. Y. July 1949

Can Increased Cotton-Spinning Efficiency Be Accomplished with Addition of Rayon?

Interesting reports from the field are being received by Avisco on the advantages of using percentages of rayon in cotton spinning. Considerable improvement in processing is indicated by these reports, with increased spinning efficiency and resultant savings in raw stock costs being stressed. Improved evenness and luster of the finished yarn and fabric are also mentioned.

With the ever-pressing need on the part of the textile industry to examine carefully all avenues to increased efficiency, the Textile Research Departments of American Viscose, among its many development projects, is devoting time and attention to possibilities of rayon-cotton blends. Development work on these blends is being done with others in the trade as well as at the research plant at Marcus Hook.

Those in the cotton spinning industry who are interested in exploring this field for increased efficiency are invited to work with the Textile Research Department on this program. These research efforts will be reported as developments occur.

Motion Pictures and Film Strips among Visual Aids Prepared by Avisco

The following visual aids are currently available from Avisco. Arrangements for securing this material can be made by contacting the Public Relations Department of American Viscose Corporation.

Science Spins a Yarn. 16mm technicolor sound motion picture, 25 minutes. A general interest film telling the story of the 300-year struggle to create and perfect rayon. Dramatized historical scenes are interwoven with scenes in an up-to-date textile research laboratory. Recommended for Junior and Senior high school assembly use or non-technical adult groups.

How Rayon is Made. 16mm black-and-white sound motion picture, 15 minutes. This semi-technical film shows key steps in the manufacture of both viscose and acetate rayon, starting with the raw materials. Suggested for groups with more-than-average interest in textiles.

How Rayon is Made. 35mm black-and-white silent film strip, 67 frames. Covers same material as motion picture. May be used separately or with film to permit detailed study of rayon production.

Your Attitude is Showing. An 11 minute color and sound film strip that dramatizes how salespeople can improve sales by giving positive, concrete answers to the five questions most customers ask about rayon.

Manufacturing Process Kit—Part I—Viscose Rayon. Contains actual samples which show stages in manufacture of viscose rayon from raw material (wood chips) to finished fabric. Also 8 key photographs of the industrial operations.

Manufacturing Process Kit—Part II—Acetate Rayon. Same material as Part I, but relating to the production of acetate rayon.

RAYON 20 YEARS AGO

NEW YORK, July, 1929—Men's suit makers are finding rayon linings a decided sales asset due to rayon's smoothness, perspiration-fast colors and resistance to moths.

NEW YORK, July, 1929—Newest fashion success is a new sun back rayon vest. The garment is designed to meet the new call for the maximum of sunlight when attired.

NEW YORK, July, 1929—Results of a recent survey of department stores show that slip satins and voiles are the fastest selling rayon fabrics.

MAKE USE OF *Avisco* 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

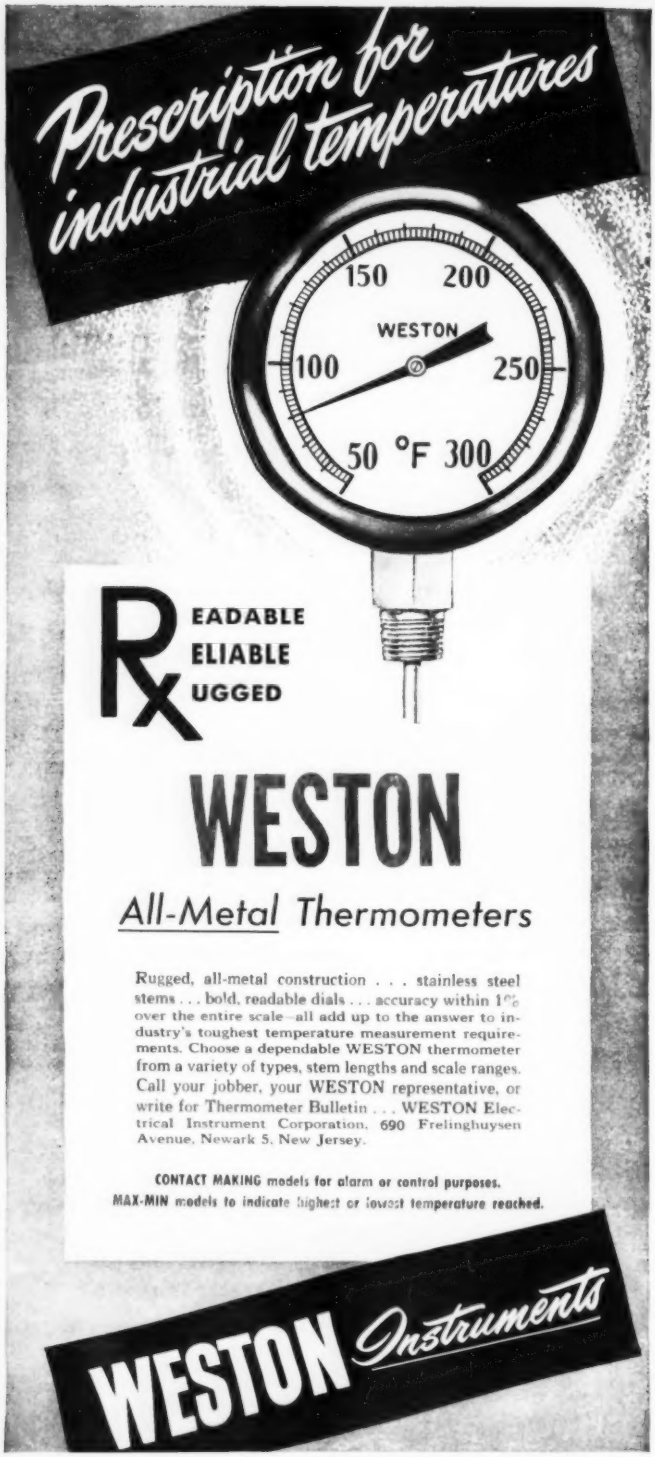
1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

ADV.


Prescription for industrial temperatures
150
200
WESTON
100
250
50 °F 300
Rx
EADABLE
ELIABLE
UGGED
WESTON
All-Metal Thermometers
Rugged, all-metal construction . . . stainless steel stems . . . bold, readable dials . . . accuracy within 1% over the entire scale—all add up to the answer to industry's toughest temperature measurement requirements. Choose a dependable WESTON thermometer from a variety of types, stem lengths and scale ranges. Call your jobber, your WESTON representative, or write for Thermometer Bulletin . . . WESTON Electrical Instrument Corporation, 690 Frelinghuysen Avenue, Newark 5, New Jersey.
CONTACT MAKING models for alarm or control purposes.
MAX-MIN models to indicate highest or lowest temperature reached.
WESTON Instruments

ured by a meter installed at each end of the dye-machine line, one meter handling seven machines and the other eight machines, through a system of valve controls.

The new addition provides office, storage, and shipping space as well as space for the chemical and dye laboratory and dye plant. The layout for passing goods to, through, and from the dye plant was planned for efficiency and ease of handling. All goods are sorted, bagged, and labeled in the second-floor storage room. They are dropped through a chute to the dye plant. From the dye plant they are trucked to the adjoining boarding room.

Warpwise Defects

(*Continued from page 131*)

ber rolls will wear out. On some looms, rolls will wear down faster than on other looms, even on similar weaves. There is no setting that can be determined for placing and adjusting temple rolls. The warp on one loom may require more tension to give a smooth weave than on a second loom. A third loom may have a slight difference in the beat-up. These factors have an influence on temple-roll wear.

Temple rolls last only a short time on automatic looms. Flat surfaces caused by drag-ins from the battery side, rolls becoming clogged and failing to turn, and sizing and oils giving the rolls a slick surface and reducing gripping action all may make the temple nearly useless. Some rolls may be practically new, but they nevertheless can be useless.

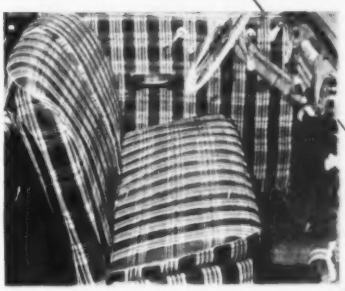
The life of rubber rolls can be doubled or tripled if the surfaces are renewed. Rolls clogged with a small amount of waste can be put back in service if the waste is removed before a flat place is worn on the roll. Hardened size can be cleaned off and the rubber surface brought back to gripping power by carefully abrading the roll to remove the coat of size.

CLEANING ROLLS. For cleaning the rolls, a suitable roll holder is necessary. A holder can be made by putting a wooden handle on a short length of harness-mount wire. The handle keeps the roll from spinning against the fingers. Place one roll on the wire as shown in the sketch on page 131. Hold the roll lightly against the edge of a sanding disk.

Pressing the roll too tightly against the disk will cause too much rubber to be cut away. Only a light contact of the surface is needed. When a good sheet of abrasive is on the disk, one movement the full length of the

SARAN

BY NATIONAL



"MADE OF SARAN" . . . means products that are going places . . . and for good reason! Monofilaments of Saran weave sales-making beauty and long life into functional fabrics destined for constant service. These flexible filaments, now available as fine as .005", are easy to weave—easy to work—and require no preparation for warping and quilling. There's endless inspiration for designers in the extensive range of colors in Saran . . . colors that are an inherent part of the fiber and will last as long as the fabric itself. You can't scuff or snag Saran—and it is resistant to dirt, stains, alcohol and most acids. It's the fabric for enduring, carefree beauty—ideal for automobile seat covers! That's why it is a favorite where products set the pace for distinction—and for sales.

THE
National plastic products company

Manufacturers of Saran filaments, Nevamar High-pressure Laminates and Wynene Molded Products.

ODENTON • MARYLAND

New York: Empire State Building • Los Angeles: Bankers Building

SARAN BY NATIONAL *denotes monofilament, rattan and tape manufactured by The National Plastic Products Company from Dow's Saran, and supplied to mills, weavers and other fabricators.*

ABBOTT Automatic WINDERS

Cut Winding Costs to the Bone!

How? Because one seated operator can run as many as 200 spindles with an hourly production of 800 to 900 bobbins tied in, throughout every week, at winding speeds up to 800 yards per minute! The operator's only task is putting full bobbins in a rotating magazine and doffing full packages.

In the face of ever-increasing production costs, wise management will investigate the labor-saving, cost-cutting Abbott Automatic Winder. Write for bulletin.

ABBOTT MACHINE COMPANY

FACTORY AND MAIN OFFICE:
WILTON, NEW HAMPSHIRE

SOUTHERN OFFICE: GREENVILLE, SOUTH CAROLINA

roll will usually be sufficient to clean it.

On many rayon and silk weaves that require nearly perfect temple settings, temple rolls should be replaced as soon as wear is noticed. Perhaps the rolls taken off may be used again on other weaves. In most rayon weaving rooms, a variety of weaves are in work at one time; and rolls discarded from delicate yarns as useless may be found serviceable for full-warp runouts where narrowing of the cloth is rare. If a fixer can increase the length of temple-roll life without impairing quality of production, he is contributing worth-while attention to his section.

WARP STREAKS. The ends of the temple often cause lengthwise creases when the head is set close. To overcome such creases, grind off the high ridges and round off the ends. After the ends are smoothed on a sanding disk, they will not chafe the fabric face as it passes over the metal and under the rolls.

When heads are set tight but cloth still moves without binding, shifting of warp and filling yarns from their correct alignment is possible when the cloth passes over the ridges of a new temple. On some weaves, the cloth may have the lengthwise streak before it passes down the breast roll, and the streak may not be present after the cloth is wound around the take-up drum. However, the streak may appear again after the cloth has been finished.

When temple heads are pinching the cloth and the open end indicates the streak, warp yarn often loosens up and allows the drop wires to sag. This condition may cause false loom stops.

In order to maintain loom production, some weavers resort to packing up the drops with strips of paper to prevent loom stops. This practice presents another source of imperfection, some weavers resort to packing drop breaks, the loom will not be stopped. The broken end may entangle other yarns and cause a small smash.

SAGGING ENDS. Additional warp tension may occasionally keep drops from from sagging down. But to correct sagging ends properly, the temple should be removed and the sharp ridge ends near the opening end should be ground off.

Still other lengthwise temple marks appear somewhat similar to crowded reed dents and wrong draws. If the cloth appears regular in front of the temple near the beat-up but narrow defects show on the cloth coming from

BUY THE LEADER... BUY WESTINGHOUSE!

THE WATER COOLER THAT'S Bonderized for Long Life!

NO SWEATING..
NO RUSTING...
ALWAYS LOOKS LIKE NEW

1st Price

MODEL WW14A

BUILT RIGHT... PRICED RIGHT...

"of course, it's electric"

AMAZINGLY FREE FROM SERVICE

Plus A WATER-COOLED CONDENSER

Westinghouse Water Coolers with water-cooled condensers are the answer for installations where lint-laden air is prevalent. Water-cooled condensers (instead of air) maintain full refrigeration capacities under all conditions. Standard equipment on the Westinghouse WW14A, WW22 and the special explosion-proof model WWE14A.

YOU SAVE MONEY...
ELIMINATE MAINTENANCE COSTS
YOU GET A 5-YEAR GUARANTEE PLAN

For installations when air-cooled condensers are satisfactory, Westinghouse provides four other models. Everything from a Bottle Cooler to six Pressure Coolers... a capacity and type for every need.

WESTINGHOUSE ELECTRIC CORPORATION
Appliance Division • Springfield 2, Mass.

FOR FURTHER INFORMATION CALL YOUR WESTINGHOUSE DISTRIBUTOR OR MAIL THE ATTACHED COUPON TO WESTINGHOUSE ELECTRIC CORPORATION SPRINGFIELD 2, MASS.

REQUEST FOR WATER COOLER INFORMATION

Name_____

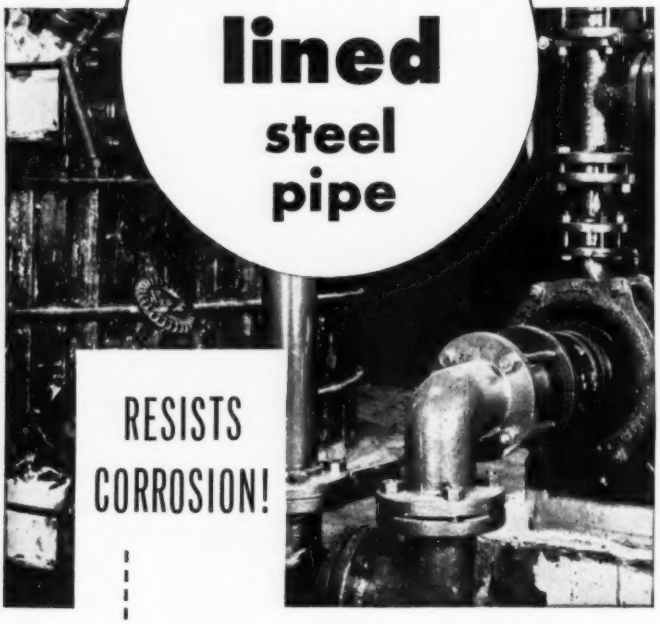
Street_____

City_____

State_____ 7TW

YOU CAN BE SURE..IF IT'S Westinghouse

saran lined steel pipe



RESISTS CORROSION!

reduces shut-downs!
readily field-fabricated!
available immediately!
lower in cost!

Saran lined steel pipe is available in maximum lengths of 10 feet and in sizes from 1 to 4 inches inclusive.

Also available are saran lined plug valves, flanges, reducing flanges, flanged fittings, gaskets and fittings with union ends.

Write us today for further information concerning saran lined steel pipe and how it may solve your problem.

Manufactured by The Dow Chemical Company, distributed nationally by Saran Lined Pipe Company.

SARAN LINED PIPE COMPANY
702 Stephenson Building • Detroit, Michigan

Offices in: New York • Boston • Philadelphia • Pittsburgh • Chicago • Tulsa • Indianapolis • Houston San Francisco • Los Angeles • Portland • Cleveland Denver • Seattle • Toronto

DOW
CHEMICALS INDISPENSABLE TO INDUSTRY AND AGRICULTURE

the temple, an inspection of the temple will reveal small indentations or beads along the ridges. Usually, these flaws are approximately $\frac{1}{32}$ in. in width lengthwise the cloth.

Removing minute flaws may be difficult. If the cause is small metal beads, these can be smoothed off on the sanding disk. If the flaws are small nicks, these can be removed by sanding and smoothing off the rough surface with sandpaper or a fine file. If the nicks are deep, it is best to fill in the spots with brazing metal and then smooth them down.

Wool-Jersey Finishing

(*Continued from page 133*)

run for about 15 min. without steam. The bath is then raised to the boil in 45 min. and kept at the boil for an hour.

Recently, the use of glauber salt has been questioned, and it is possible that a trend away from its use may develop in wool dyeing. The proposed method of dyeing wool without glauber salt is to enter the goods in a dyebath at 200° F. with the steam shut off and with the bath containing dyestuff. After the bath and goods have circulated, the acid is added and the steam turned on.

For increased fastness properties, there are other methods of dyeing wool: the top chrome, metachrome, and bottom chrome; but these are not generally used on wool jersey for outerwear.

BLEACHING. Wool is bleached in an alkaline bath with hydrogen peroxide; the alkaline bath harshens the wool, but there is no acid-bleaching method generally used. The scoured wool is prepared for bleaching in such a way that it retains a small percentage of soap. It is then treated in a bath of 0.5% hydrogen peroxide and 0.03% oxalic acid at a pH of 8 with the temperature between 140 and 160° F.

Strong alkalis injure wool and should be avoided. As acid is an important constituent of wool processing, the control of its concentration by pH control is important for uniform and proper processing. The literature on wool dyeing and finishing is full of references to pH control; more so than in cotton or rayon dyeing. The use of wool vat dyes with caustic soda and sodium hydrosulphite is being developed at the present time, but only under special precautionary instructions. The best arrangement for pH control is through measuring devices and recording meters.

Light, exposure to weather, and other factors affect the way wool fiber takes dye. This statement is true, not

BUENSOD-STACEY, INC.

Announces a New Portable Electric Humidity and Temperature Indicator for quick testing of Humidity and Temperature

The Buensod-Stacey Portable Electric Humidity and Temperature Indicator was developed to meet the demand for quickly taking direct readings at any point in the mill of percentage of relative humidity and temperature in degrees Fahrenheit. Price $250 U.S.A. plus transportation and sales taxes.

Available immediately.

THE BUENSOD-STACEY ADJUSTABLE INTERMITTENT HUMIDITY CONTROLLER insures extremely close control of relative humidity without the objectionable atomizer-head "wet-down" that is sometimes encountered. This "wet-down" is eliminated by the adjustable and intermittent features of the CONTROLLER which regulates the cycle of atomizer-head operation without interfering with their use in obtaining the desired relative humidity conditions. The adjustment extends through a wide range and is therefore suitable for a variety of applications.

CONTROLLED HUMIDITY WEAVE ROOM

A view showing the Buensod-Stacey Adjustable Intermittent Humidity Controller in the #6 Weave Room of the Hathaway Manufacturing Co., New Bedford, Mass. which room has 8 Controllers in operation.

P. L. Davidson & Associates, Textile Consulting Engineers, Buensod-Stacey, Inc., Installing Engineers.

BUENSOD-STACEY, INC.

ENGINEERING CONTRACTORS

Specialists in Textile Humidifying and Air Conditioning

Main Office: 60 EAST 42nd ST., NEW YORK 17, N.Y.

ENGINEERING BRANCH OFFICE
1001 N. Church St.,
Charlotte 1, N. C.

IN CANADA:
Buensod-Stacey Systems
Francis Hankin & Co., Limited,
Montreal 2

"The lowest-cost gate valve we have ever used!"

. . . that's what they say about the

LUNKENHEIMER

"King Clip" Gate Valve

THE first clip type valve was originally developed many years ago by Lunkenheimer and was one of the most popular gate valves ever designed. As service demands became more severe, the basic design was improved into the present "King-Clip". Twenty-one different patterns are now available for a wide range of service conditions in virtually all industries.

The "King-Clip" is truly the leader of all clip type valves . . . it offers you a money saving solution to many valve problems. See your Lunkenheimer Distributor. He has a stock available to serve you promptly. Write for Circular No. 561.

There are good reasons why so many valve users prefer "King-Clip" Valves. *Note these features:*

- Exceptionally strong body and bonnet construction.
- Extra length pipe threads for a strong, safe joint.
- Sharply tapered disc seats tightly.
- Large, unobstructed channels really drain the bonnet.
- Coarse stuffing box threads provide greater resistance to corrosion and stripping . . . reduce annoyance of leaky stuffing boxes.
- Easy to disassemble and reassemble.
- Exceptionally low maintenance cost.
- In bronze mounted patterns, rolled-in seat rings, integral non-corrodible stem thread bearing and special alloy stem assure longer life.

ESTABLISHED 1862

THE LUNKENHEIMER CO.

"QUALITY"

CINCINNATI 14, OHIO, U. S. A.

NEW YORK 13 · CHICAGO 6

BOSTON 10 · PHILADELPHIA 34

EXPORT DEPT., 318 322 HUDSON ST., NEW YORK 13, N. Y.

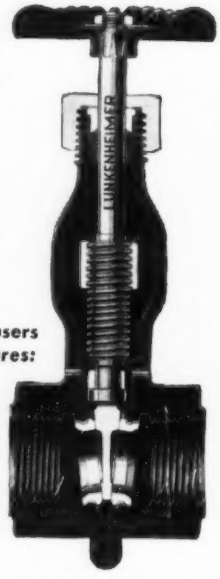
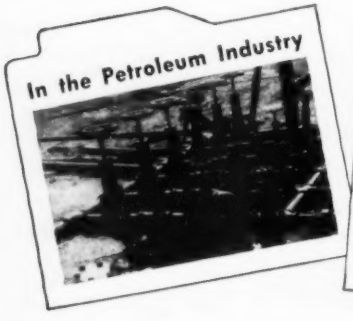
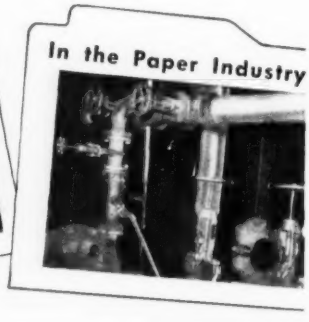


Fig. 1640 Iron Body Bronze Mounted . . . for steam, oil, gas, air, water and gasoline service.

Fig. 1644 All Iron . . . for handling solutions which attack bronze.





only for raw wool taken off the sheep's back, but also for the subsequent exposure of the wool fabric in the gray state. Just as light and air affect mercerized cotton cloth when stored in rolls, they affect wool; and the exposed parts take the dye differently from the unexposed parts. The effect of exposure may look like streaky dyeing when the cloth is opened and in the unrolled state. Wool gray goods when stored should be wrapped in paper. A recent study shows that this streakiness can be overcome by proper selection of dyestuffs and by the use of proper leveling agents.

Cellulose fibers and particles in wool are eliminated by one of two methods: carbonizing, which is the destruction of the cellulose by sulphuric acid and heat; or speck dyeing, which is the application of direct dyes to cover the cellulose fibers. Speck dyeing is done in a cold bath, and the exhaustion of dyestuff and fastness of color are not too satisfactory.

In dyeing and finishing wool fabrics, there is an established separation point between dyeing and wet finishing. The first is supervised by the dyer, the second by the finisher. As the work of one has direct relation to the work of the other, there must be close cooperation between the two. Streaky and cloudy dyeing are frequently due to faults in washing, fulling, and carbonizing, traceable either to mechanical defects in machinery or carelessness of employees in processing.

FULLING. The important wet-finishing operation is fulling, which takes advantage of the felting characteristic of the wool fiber, which compresses, compacts, or shrinks together in the presence of water, heat, and soap. Fulling is a method of increasing the weight per running yard of fabric and of changing the face by closing up the open spaces between the loops of the threads or yarns. The soap used for fulling may be inserted in the fulling machine by pails or may be piped in from a tank. Its volume is controlled by meter and valve.

Scouring or washing is the removal of all foreign matter from the wool fabric; lubricants, waxes, grease, tar, paint, and dirt. Wool jersey is scoured and given a light fulling before dyeing, or the pieces may be fulled first and later scoured; this depends upon the type finish desired. For example, a fabric to finish at 8 oz. per running yard should come off the knitting machine at 9 oz. The loss in weight due to scouring will be from 15% to a possible 30%, depending upon the amount of foreign matter present in

4 Section *Reiner*

60 GAUGE FULL FASHIONED

TWIN KNITTER

By actual mill tests an excellent producer of finest quality stockings. It is built along the lines of a standard full-fashioned hosiery machine. It stresses simplicity and sturdiness. It comes fully assembled and can be operated by unskilled help. Additional features are: High-speed knitting and fashioning. Semi-automatic welt turner. Fully automatic friction control. Individual motor drive. Up to eight yarn carriers. Knitting width 15". It fashions a round heel stocking (or square heel stocking in conjunction with the Reiner Auto Heeler). No air conditioning system needed for their operation. Many other features.

Write for richly illustrated catalog or visit our showrooms for a demonstration.

FOUNDED IN 1903

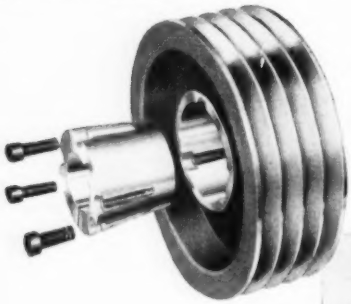
ROBERT REINER INC.

550-564 GREGORY AVENUE
WEEHAWKEN, NEW JERSEY

10 MINUTES FROM TIMES SQUARE. Take Bus Nos. 61, 67, 167 from the Times Square Public Service Terminal at 260 West 42nd Street, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-2217.

The simplest, surest mechanism ever devised for holding wheels to shafts

No flange—no collar. Easy on, easy off. Slip it on and tighten while sighting



Stocked in complete range of sizes in Dual Duty (A and B); B, C and D grooves

Holds fast to the shaft with firmness equivalent to a shrunk-on fit

A Great, Time-Saving Development—

TAPER-LOCK
Trade Mark

V-BELT SHEAVE

This is one of the century's biggest developments in power transmission equipment—another Dodge "first." Simpler, tighter-fitting, truer-running, infinitely easier to handle. Saves installation time and results in neater applications—in the plant or on your product.

Dodge's sole business is to "get the power through"—smoothly, steadily, economically. To succeed in this business Dodge has developed many products that are outstanding in the field of mechanical power transmission. Your Transmissioneer, the local Dodge Distributor, is equipped to give you valuable information on new and better ways to transmit power.

DODGE MANUFACTURING CORPORATION • MISHAWAKA, IND.

OTHER DODGE "FIRSTS"

Taper-Lock Flexible Coupling. Ready to install; no reboring.

Dodge Timken Bearing. 4 basic types in a vast range of sizes.

Rolling Grip Clutch. No toggles! Flexible and positive.

DODGE
of Mishawaka, Ind.

CALL THE TRANSMISSIONEER. Look for the name of the Transmissioneer, your local Dodge distributor, under "Power Transmission Equipment" in your classified telephone directory.

NAME PLATES FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY, ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS

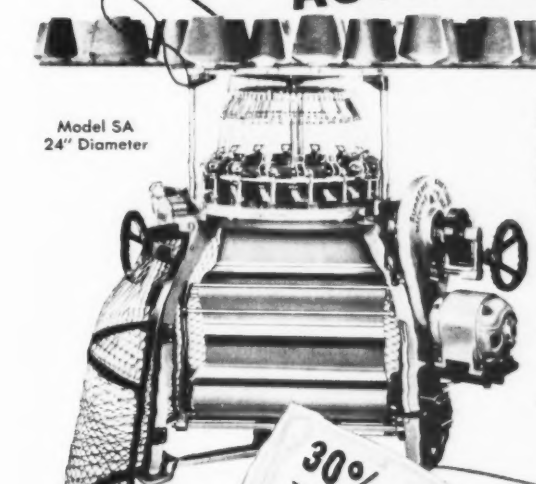
the cloth. The fulling process will increase the weight of the cloth, but the amount must be determined by experience.

Before processing, two strings are usually placed at a measured distance apart from each other at the end of the cloth. During the fulling operation, frequent measurements are taken as a means of controlling the action of the fulling machine. These measurements are a check upon the operation until the proper shrinkage has been attained. There is a concurrent shrinkage in the width of the cloth in fulling. This width shrinkage also must be considered as a factor in the construction layout of the fabric. After scouring and fulling, all soap must be thoroughly washed out before dyeing. Otherwise the acid used in the dyebath will join with free portions of the residue soap to form a new product, causing a cloudy appearance on the dyed cloth. With synthetic detergents instead of soap, such a reaction does not occur; but the use of soap is a more common practice in wool dyehouses.

After scouring, the goods may be given a shrink-resistant treatment. There are a number of chemical treatments, both wet and dry, available for shrinkage control of wool goods. The most common is chlorine in the form of hypochlorite solution. Sodium hypochlorite in an alkaline bath tends to yellow and harshen the wool, but control of the available chlorine is good. In an acid bath, the chlorine does not harshen the wool and tends to bleach it, yet it is difficult to control and may degrade the wool with unpleasant results. The recent patented "Protonized" method controls the available chlorine in an acid bath and is satisfactory. (There may be a difference in shrink resistance when the cloth is washed in the home laundry, depending upon whether the housewife uses soap or synthetic detergent in washing. This possible difference must be checked and the proper recommendation made for laundering.) After scouring, the cloth may be carbonized. The sulphuric acid residue must be neutralized before dyeing. The chlorine used in a shrink-resistant treatment must also be removed by the use of an antichlor before dyeing.

After drying, the wool jersey cloth is extracted, either by centrifugal extractor or squeeze roll to remove excess water. The cloth must then be dried by heat to remove water still present in the cloth. The common method of drying wool jersey is to bring the tubular cloth over a large bulb-like device which blows steam through the cloth. The wool finisher

SUPREME'S MODEL SA
THE WORLD'S FASTEST AUTOMATIC STRIPER...



Model SA
24" Diameter

KNITS DOLLARS FOR YOU

NO OTHER STRIPER GIVES YOU ALL THESE EXCLUSIVE MONEY-MAKING FEATURES.

- **New, Ingenious Automatic Striping System*** . . . Gives you world-beating production efficiency, versatility and durability.
- ***Stationary Yarn Stand*** . . . Assures trouble-free operation at continuous, super-fast knitting speeds. The cylinder and take-up revolve.
- **Automatic, Synchronized Cutters On Each Feed*** . . . Clip off the yarn that is going out of action, eliminating all waste.
- **Automatic Pattern Placer*** . . . Available on the SA, it lets you place patterns and plain or striped *jersey wherever you want.*

Write today for *free* cloth samples and the booklet "Variable Stripes and Plaids Pay."

*Patents Applied For

30% FASTER!
The Model SA knits at the terrific rate of 24 revolutions per minute for 30% greater production.

NO-WASTE!
Synchronized cutters *eliminate* all yarn waste. Cloth *does* not have to be reversed for finishing. Buyer gets all cloth for his money.

GREATER FABRIC VERSATILITY!
The Model SA, equipped with Automatic Pattern Placers, knits variable stripes, plaids, designs and "Pattern-Placed" cloth.

SUPREME
KNITTING MACHINE CO., INC.
107 JOHNSON AVE. BROOKLYN 6, NEW YORK, N. Y.

SK-122

no more tortured eyes

no more tedious counting

no more errors in count

new

MICRO-LINE COUNTER

gives fabric counts

- accurately
- instantly
- directly

NOW YOU GET accurate instantaneous counts of textile fabrics with this *new, precisely engineered* Micro-Line Counter.

FREE, four-page illustrated folder describes the ingenious way the Micro-Line Counter gives you *direct* readings based on lens-sharpened, intense moire patterns that point to the exact count. Far superior to the slow, old-fashioned method, the Micro-Line Counter *does away with the tedious work of counting individual lines . . . saves time . . . eliminates the torture of eyestrain . . . prevents errors in count.*

A MOST USEFUL, LONG-REMEMBERED BUSINESS GIFT

Here's the perfect gift for buyers and executives in your trade. They will use the Micro-Line Counter day-in, day-out for years. Your company name, personalized imprint, trade mark, slogan or message can be engraved or heat-stamped on the opposite side of the Micro-Line Counter and on the fine-grained black leather carrying case as well.

ML 100

Mail coupon now for free folder and prices

Manufactured by

MICRO-LITE COMPANY, Inc.
44 West 18 Street, New York 11, N. Y.

Use the Micro-Line counter for • checking whether fabric specifications are met • estimating shrinkage of finished construction against gray construction • insuring uniformity of fabrics • analyzing fabric construction

Micro-Lite Company, Inc., Dept. C-1
44 West 18 Street, New York 11, N.Y.

Gentlemen:

Without obligation, please send me free illustrated folder giving full information and prices on the Micro-Line Counter.

NAME_____

COMPANY_____

ADDRESS_____

prefers this method of drying because the action of the steam has a decating as well as a drying effect.

For drying the cloth, the loop-dryer, or similar method of drying the goods in a relaxed state, is satisfactory. The loops of the cloth in the loop-dryer should be short as the moisture in the cloth tends to gravitate to the bottom of the loop. If the amount of moisture is excessive, it will tend to stretch the cloth during drying, which is an undesirable result.

DECATING. After drying, the wool jersey cloth may be decated or semi-decated. Worsted jersey cloth should receive this steam treatment, as it aids in controlling the shrinkage of the cloth, improves the handle, and gives luster to the fabric. After this process, the cloth is calendered on the usually tubular knit-goods calender and rolled up for shipment.

Usually, no finishing chemicals are put in a wool jersey cloth, and if the cloth is properly processed, it should not curl at the edges. The curling of cotton and rayon circular knit cloth is nullified by the addition of a non-curl chemical, either a resin or starch. Melamine resin is used for shrinkage control, and is applied by means of a padder or quetsch. The cloth is then dried and then given a heat treatment at 350° F. for a few minutes, whereby the fabric is "cured"—that is, the resin is polymerized and rendered into insoluble form.

Overcoating fabrics are usually knitted with a stich left out, the so-called drop-stitch. After extraction, the cloth is split along the drop-stitch and the cloth is then handled as a flat fabric: it is dried on a pin tenter and brushed, napped, and sheared like any woven wool fabric.

Union dyes of cotton-and-wool and rayon-and-wool are dyed with neutral-dyeing acid colors for the wool, and direct dyes for the cotton and rayon in the fabric.

The staining properties of dyes for unions must be investigated, and those dyes which stain the other fiber should not be used. The same characteristic of acetate dyes in acetate-and-wool unions must be controlled. By careful selection of dyestuffs, acid dyes will give union dyes of nylon and wool cloths.

Where the content of nylon is high, the pre-setting needs of this fiber must be considered and provided for. Usually, the wool fiber is dyed on the lighter and brighter side, and the rayon or cotton fiber is dyed on the darker and duller side, so that the union will be more pleasing to the eye. Rabbit hair absorbs considerably more dyestuff than does wool, and the bleach-

Learn these Definitions___

rayon

A textile fiber made of *regenerated cellulose.* (Example: viscose.)

estron

A textile fiber made of an *ester of cellulose.* (Example: cellulose acetate.)

● These separate and distinct names for the two major types of man-made fibers are recommended by the Committee on Textiles of the American Society for Testing Materials, the membership of which includes many leading manufacturers, distributors, and users of textile products.

Tennessee Eastman will follow the ASTM recommendation and identify its cellulose acetate fibers as *estron*, not rayon.

Tennessee
Eastman
Corporation

SUBSIDIARY OF EASTMAN KODAK COMPANY

KINGSPORT, TENNESSEE

JULY • 1949

CARD CLOTHING NEWS and views

Written monthly by E. A. Snape, Jr., President **Benjamin Booth Company** Phila., Pa.

STRIP-O-MATIC*

Card Clothing SAVES

TIME • MONEY • LABOR

Have you ever stopped to think how much you could save merely by using a card clothing requiring less stripping?

We have thought of this saving *for* you, and designed the new **STRIP-O-MATIC** with just one thought in mind —to enable you to card better and save time, money and labor.

STRIP-O-MATIC Card Clothing culminates tested ideas that showed their actual value from the very beginning. In woolen and carpet plants,—indeed, in the many plants where we installed **STRIP-O-MATIC** for tral runs previous to making it available to the textile industry, it met with such success, repeat orders followed in quick succession.

This information on "repeat orders" we are passing along to you as it is actual evidence of the quick acceptance of **STRIP-O-MATIC.**

How did **STRIP-O-MATIC** save these users . . . and how will it save you?

NEW!

8-Page Color Booklet on

STRIP-O-MATIC

Card Clothing!

Write for your copy.

* Pat. App. For

In these ways:

Saving in "Down Time". The teeth do not fill up, thus cleaning is reduced and time goes to "production" instead of "loss motion."

Saving in Stripping Waste . . . which means more profit from production.

No Costly Methods To Put On. Just the usual type of apparatus is needed.

Nothing New For The Help To Learn. No strain learning drastic changes, leaving the "Strip Crew" free for more productive (and, for them, more desirable) work.

No Change In Fancies. **STRIP-O-MATIC** will operate with the fancies you regularly use.

Cost. No more than Conventional Clothing of similar construction.

And Still Another Saving. If the Card Room is run on a bonus for production basis or on piece work, the help will be made happier through increased earnings at the same time the plant is making definite savings through greater production and less stripping waste.

With these savings, wouldn't you say **STRIP-O-MATIC** is literally worth its weight in gold?

Needed so long, now that you can get a Card Clothing requiring a minimum of stripping, we seriously urge you to take advantage of the savings offered. We invite your inquiries and reply shall be prompt.

Thanks,

E. A. Snape Jr.

President,

Benjamin Booth Company

Allegheny & Janney Sts.

Philadelphia, Pa.

ing of rabbit hair is a more prolonged process.

Unless the demand for knitted wool cloths increases perceptibly in volume, there is no compelling reason for using any other than the standard well-known equipment available for wool cloths. While the engineer seeks perfection in itself and longs for the newer continuous-processing methods, practical considerations overrule the need for the increased capital outlay.

Non-Lubricated Rolls

(*Continued from page 111*)

as a brake on conventional rolls, the ball-bearing rolls being frictionless, turn perfectly with the steel roll.

Theoretically, synchronous rotation of the bottom and top delivery rolls would explain the difference in the quality of roving or yarn delivered from frictionless top rolls and conventional top rolls. If the surface speed of the top delivery roll is constantly varying from the surface speed of the bottom delivery roll, there must be a similarly varying slippage on the fibers nipped between the two, and hence a consequent and similar variation of the fibers being delivered from moment to moment. This slippage and variation resolves itself into unevenness in the delivered strand.

Without synchronized rotation, there must also be a rubbing or scuffing action on the fibers at the nip. This action would explain reports by users that ball-bearing rolls had actually lessened the amount of lint produced and the amount of evebrowing on roving frames. It is believed that the even and constant rotation of ball-bearing top rolls against the top flat clearer also has a lot to do with evebrowing, since an erratic rotation of the top roll against a flat clearer would tend to disturb the even deposit of lint on it. The amount of long fibers present in clearer waste could thus be explained.

IMPROVED DEVIATION. It is not an invariable rule that a mill putting ball-bearing rolls on their front line in spinning only will find its yarn break improved. Most mills, however, do find that the deviation from their average break is improved, and many mills find their yarn quality improved throughout, as shown in the table on page 111, based on a mill test. In spinning-room use alone, ball-bearing delivery rolls have reduced ends down by as much as from 24 per thousand spindle hours with conventional solid top rolls to 18 per thousand spindle hours when ball-bearing top rolls were installed.

Climax ball-bearing rolls like those

MEMO # 1 of a Series

(1) Looking Forward
(2) Tradition or Progress
(3) Reputation or Performance
(4) Facts or Claims
(5) Take it or Leave it
(6) A Challenge

CABLE ADDRESS EDMOSCORP, NEW YORK

EDMOS PRODUCTS *Corporation*

13 CHRISTOPHER AVENUE BROOKLYN 12, NEW YORK DICKENS 2-0172-3

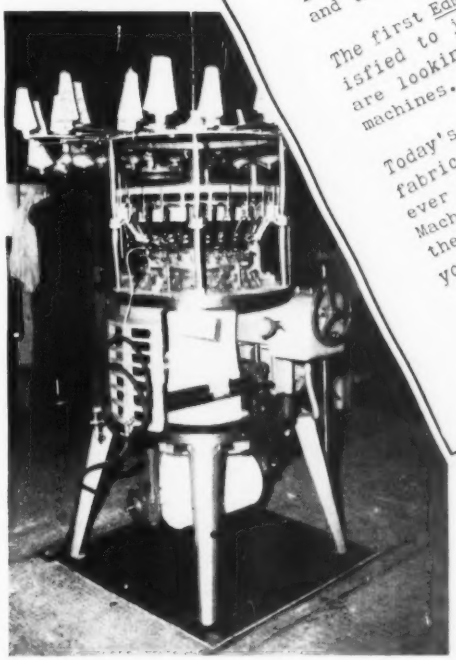
LOOKING FORWARD

At war's end, with a highly efficient plant, a nucleous of skilled mechanics and twenty-five years of prewar experience dealing in and rebuilding every type of knitting machine, we decided to build the Edmos Knitting Machine.

Not just another knitting machine, but one that would incorporate all of the ideas we and the knitters had dreamed about down through the years. Such a development, we believed, was dependent on the full cooperation of knitters and this we have had from the beginning.

The first Edmos machines met the test. But we were not satisfied to just keep abreast of competition, we were and are looking forward to building still better and better machines.

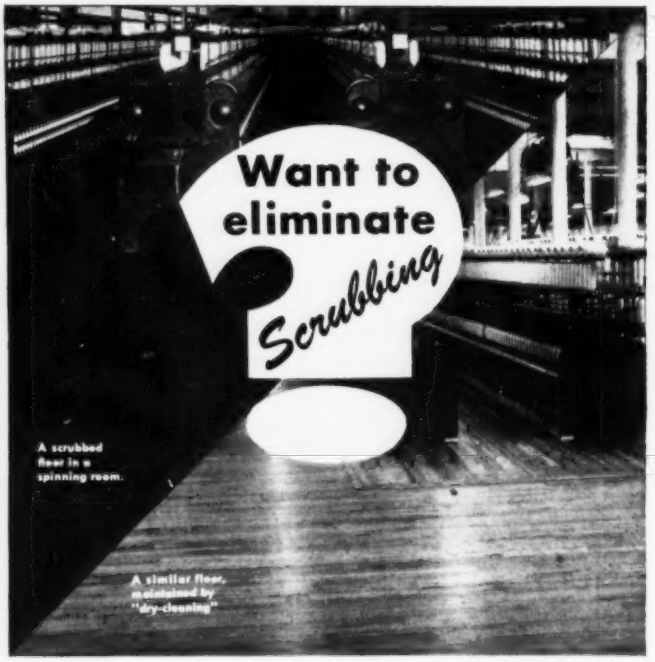
Today's Type E. E. M. Edmos will produce more underwear fabric, at less cost, than any other machine of its type ever built. As time goes on there will be greater Edmos Machines, but for today's competition let us demonstrate the superiority of our Type E.E.M., in our shops or in your plant. Write Dept. A for descriptive literature.



Built in the following sizes
1x1 or 2x2—8 to 16 cut

12"—16 feeds	18"—27 feeds
13"—18 feeds	19"—28 feeds
14"—20 feeds	20"—30 feeds
15"—22 feeds	21"—31 feeds
16"—24 feeds	22"—33 feeds
17"—25 feeds	23"—34 feeds
	24"—36 feeds

ILLUSTRATED: Type EEM Edmos as shown at the 1949 Knitting Arts Exhibition



...and get cleaner floors *for less!*

What a difference when you stop scrubbing and use *modern* methods! Same traffic, oil and dirt conditions—but the "dry cleaned" floor is brighter . . . less slippery . . . easier to clean, and it *costs less to maintain.*

TENNANT FLOOR MAINTENANCE SYSTEM

1. Restores life to your floors. Gets rid of dark, rough, water-softened fibers . . . assures a clean, smooth, new-wood surface. Brings back original beauty of floor.

2. Hardens surface to resist wear. Special sealing process makes floor resistant to dirt penetration and traffic wear. Makes floor lustrous, easy to keep clean.

3. Dry Cleans to keep floor bright. A fast easy job with a Tennant machine; cleans floor like magic! Saves manhours, keeps floor smooth, safe, attractive.

FAST, EASY-TO-USE Tennant Floor Machine whisks grime from floors and picks it up in 1 operation. Various models for 8", 12" or 16" drum-type accessories for complete reconditioning and maintenance of mill floors. Has semi self-propelling action.

G. H. TENNANT CO.
2586 North Second Street
Minneapolis 11, Minnesota

Write Today!
Send for NEW 4-page illustrated bulletin on "How to Get Better Results in Textile Floor Maintenance."

The way to finer floors
TENNANT
Floor Maintenance System
Established 1870

FLOORS, LIKE ROADS ...ARE SAFER *when dry*

used by Watatic and others, are designed to prevent grease seeping out of ball-bearing front rolls. A special grease, sealed into a special ball retainer, is said to be in constant contact with the ball retainers and races, the only relatively moving parts which are in contact with each other, and nowhere else.

The roll is also so designed that it can be buffed in the assembled state, just as a solid roll is buffed. An attachment is available for standard buffing machines for this purpose.

Also available is an inspection device for buffed rolls which demonstrates at a glance any errors in concentricity of the cot surfaces with the roll axle. Eccentricity would cause a consequent weaving or skewing action of the ball-bearing top roll as it runs on the steel roll.

The ball-bearing roll is intended primarily for front-line service, because the expense of a ball-bearing roll is not ordinarily justified by its yield of advantages in back- and middle-line service. Exceptions are in certain drafting systems where ball-bearing rolls are required on middle lines due to heavy roll weighting or other special conditions.

Nylon-bearing rolls are intended for use on back and middle lines, because on these lines the speed and weighting are fractions of front-roll requirements. These rolls are not designed for and will not stand up in use on the front line of either spinning or roving. The nylon-bearing rolls are strictly designed as an ideal low-cost solution to back- and middle-roll lubrication and cleaning problems.

WEIGHTING. It is important that users of anti-friction rolls note the severe effect of increased weighting on the life of the roll. Recommended roll weighting is given in the table on page 111. When the weight is increased, the life of a given ball-bearing roll is consequently decreased, far out of proportion to the increase in weighting. Inversely, the life of any ball-bearing roll is proportionately increased by a lighter roll weighting than is recommended as maximum.

Improved Carpet Looms

(*Continued from page 125*)

of operating at speeds much higher than have been known before.

The present loom has not reached its peak of development. It is certain that many further improvements will be made. In fact, experimental work is now being carried on with a new type of wire motion. Larger packages can further reduce the amount of

For superior interiors...

Decorative Fabrics of *Celanese*® Staple Fiber

Homemakers are finding the perfect answer to a multitude of decorating problems in fabrics containing a dominant portion of Celanese staple fiber. Possessing a high degree of dimensional stability, and resistance to soil, these fabrics are becoming increasingly popular for draperies and draw curtains. The great variety of possibilities in textures, weaves and colors creates wide interest in this expanding market . . . one that promises profits for you.

Celanese Corporation of America, 180 Madison Avenue, New York 16.

* Reg. U. S. Pat. Off.

CELANESE* ACETATE RAYON STAPLE FIBER

DARNELL CASTERS

& E-Z ROLL WHEELS

There is a type of Darnell Caster or Wheel for every kind of use and floor. Made for light, medium and heavy-duty service, you are sure to find in the Darnell line the exact caster or wheel to meet your individual requirements . . .

Write Today for the new 192 page Darnell Caster and Wheel Manual

An EXTRA MEASURE of QUALITY

DARNELL CORP. LTD. Long Beach 4, Calif.

60 Walker St., New York 13, N. Y.
36 N. Clinton, Chicago 6, Ill.

servicing required, will allow the loom to run a larger percentage of the tube, and will reduce the amount of waste.

Manual changing of shuttles in tapestry and jacquard looms has always presented a problem, since it necessitates stopping the loom when the cop runs out and almost precludes multiple-loom operation. Some work has been done in the past, and experimental work is now being carried on, to try to develop a suitable bobbin changer or shuttle changer for use in these looms. The problem is not an easy one. The filling used is heavy; and in the case of the bobbin changer, the amount of yarn that can be wound on a bobbin is small. With either bobbin or shuttle changer, the use of wet filling is probably the most serious obstacle.

In general, it may be said that the improvements on all the basic types of looms have combined to provide equipment that will operate at high speeds for more hours per shift with less waste. There is no doubt that the axminster loom has advanced faster and further than the tapestry and jacquard looms, but there are still many points which can be improved upon in all types of carpet looms.

Pension Plan

(*Continued from page 135*)

top by reason of advancing age keeps the channels of promotion open, assuring preservation of young, active, and efficient managerial personnel necessary for continued success in a competitive business.

COST NOT ESCAPED. The improvement in long-range operating results that come from maintenance of a suitable pension system is the most potent offset to a feeling that a company cannot afford the cost of a plan because it would place it at a disadvantage with competitors. It cannot be assumed that a company that does not have a retirement plan is escaping the cost. It cannot simply drop superannuated employees from the payroll without causing repercussions in both its employee and public relations. If there is no retirement plan, these employees will either be kept on the payroll working inefficiently and affecting the morale of others, or be retired on informal allowances after working as long as they can in any available job or in "made" jobs. Such a policy is at least as expensive in the long run as the cost of a properly designed formal and funded pension plan.

The average social-security payment to old people is inadequate to provide even the barest essentials. Additional pensions make the difference between

It Can't Be Done!

Hemphill Banner Wrap-Reverse Hosiery Machines for men's and boys' Banner Wraps and Banner-Lastic Tops

without

HEMPHILL BANNER HOSIERY MACHINES

Successful competition today in the men's hosiery field is impossible without Hemphill Banner Machines!

The current "survival of the fittest" demands Hemphill Banner versatility . . . a practically unlimited versatility combined with a high automatic production rate that keeps you competing in styling . . . in price.

Find out why Hemphill Banner Hosiery Machines can keep you *in business!* Send for these booklets on BANNER VERSATILITY, BANNER WRAPS for men and boys and BANNER LASTIC TOPS. Get all three today! Address Dept. 1.

REMEMBER: Hemphill Banner Machines are built with genuine Banner parts and should be repaired *only* with genuine Banner replacement parts.

Banner-Lastic Top Booklet | Banner Wrap-Reverse Booklet | Banner Boys' Machine Booklet

HEMPHILL COMPANY PAWTUCKET, RHODE ISLAND, U. S. A.

Makers of Banner Hosiery Machines

OFFICES: Empire State Bldg., New York 1, N. Y. — Security Bank Building, High Point, N. C.
EXPORT OFFICE: 25 Beaver St., New York 4, N. Y.

Banner Machines "Tend to their Knitting" in the World's Largest Hosiery Mills.

STEEL

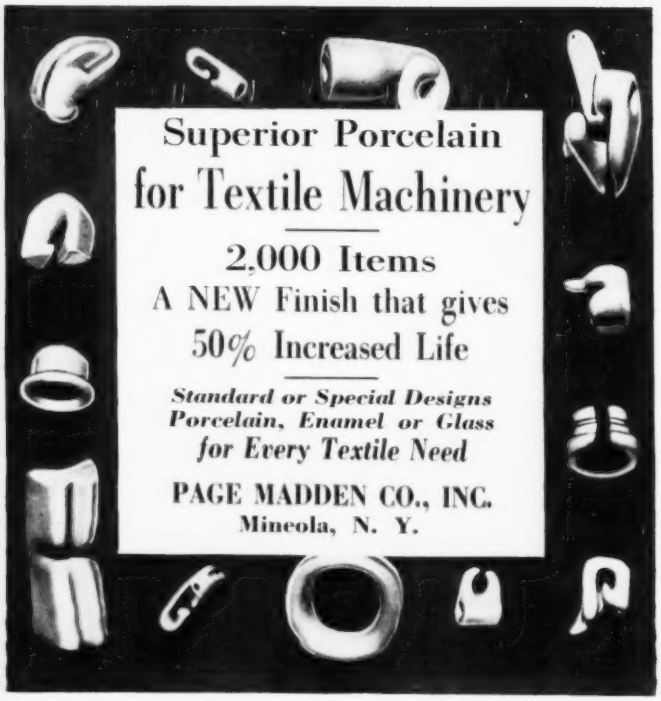
Every Kind

Quick Delivery

Plates, Structurals, Bars, Sheets, Tubes, etc. . . . Carbon, Alloy and Stainless Steels . . . .

RYERSON

Joseph T. Ryerson & Son, Inc. Plants: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles, San Francisco



comfort and misery. They enable employees to retire and receive the government payments that would be forfeited if they work beyond the age of 65 and earn over $15 per month in covered employment.

The prospect of future retirement security creates employee loyalty and enthusiasm, and frequently it deters employees from changing jobs. Employees in key positions, because of high personal income taxes, are at a material disadvantage in attempting to accumulate their own resources.

The saving in employee replacement and training costs may go a long way toward meeting the cost of a pension plan.

The most common objection to establishment of a pension plan has been that turnover among employees is so great that few if any employees remain in service to constitute an old-age-retirement problem. This view, together with the fact that in many cases proposals for retirement plans base their costs upon full provision for pensions to all employees who are covered by the plan, without taking proper account of the employee turnover factor so that the ultimate real cost has been overstated, has discouraged adoption of a plan.

As a practical matter, it is possible to establish a retirement program, the cost of which is determined realistically as the amount required to provide pensions only for those who remain in service to the retirement age or who become permanently incapacitated after many years of service.

These realistic costs may be accomplished under a plan financed by a composite fund invested in securities specified by the employer, including employer securities if desired. No part of the fund is earmarked for individual employees prior to retirement. Pensions are paid as employees retire and become eligible to receive them, on a "first-come, first-served" basis. Obviously such a pension plan can be relatively inexpensive if turnover is so high that few employees survive in service to the retirement age.

THE TAX ANGLE. A plan designed to comply with tax-law requirements is of particular advantage to the higher-paid employees as compared with salary increases or bonuses. Employer contributions made for pensions are in effect a form of deferred compensation on which the individual pays no income tax until after retirement, when he is usually in a lower tax bracket.

Because the interest earned on a qualified fund is exempt from income tax and the employer is permitted to make deductions on contributions to pensions at an earlier date than if

HOW THIS PATTERN WAS PRINTED IN *Italy*

In Italy, where printing economy is all-important, plants like Cotonificio Bustese of Busto use Aridye ® Pigment Colors for high-quality, *low-cost*, printing of a wide range of cotton, rayon, and spun rayon fabrics.

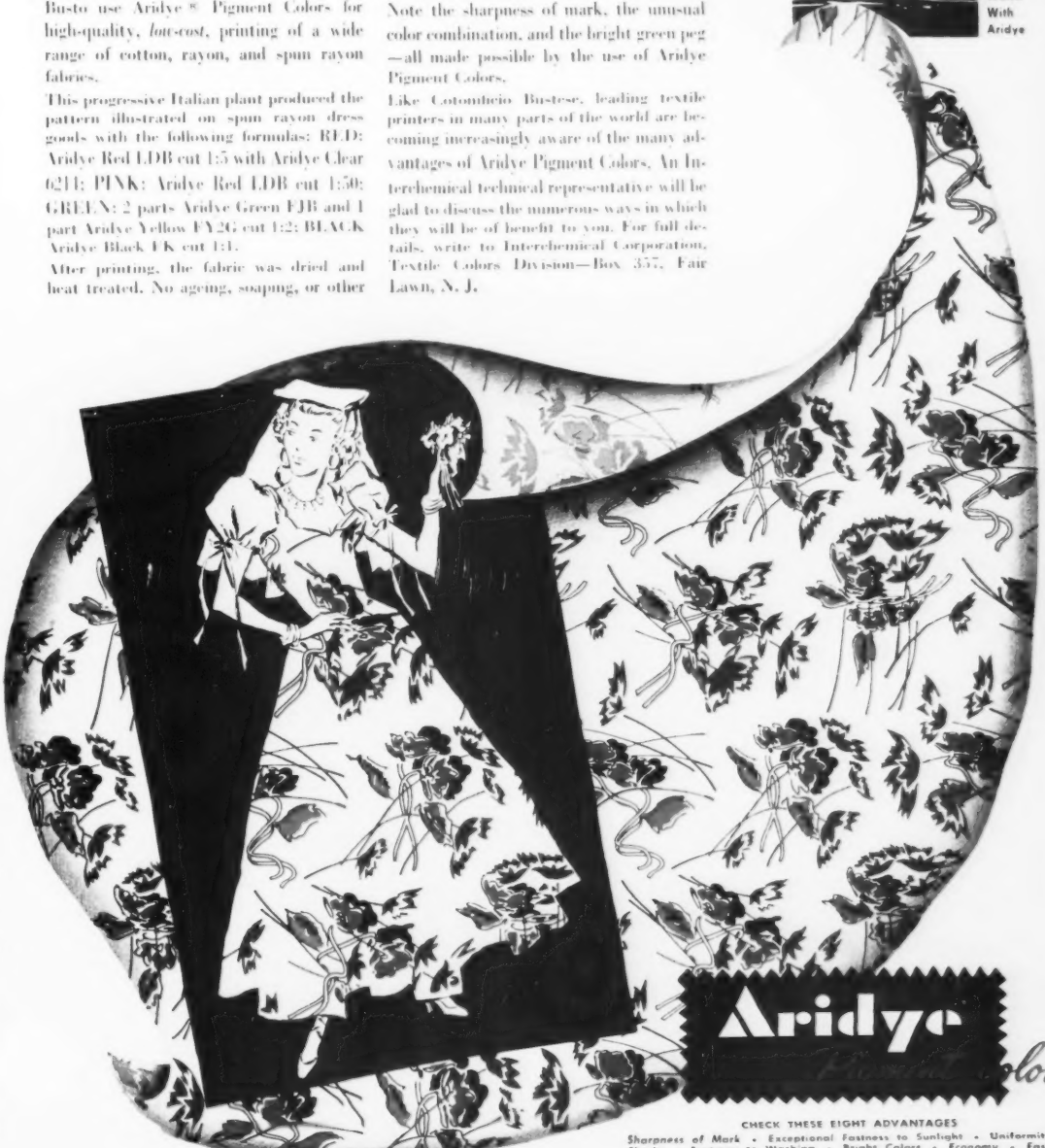
This progressive Italian plant produced the pattern illustrated on spun rayon dress goods with the following formulas: RED: Aridye Red LDB cut 1:5 with Aridye Clear 6211; PINK: Aridye Red LDB cut 1:50; GREEN: 2 parts Aridye Green FDB and 1 part Aridye Yellow FY2G cut 1:2; BLACK Aridye Black FK cut 1:1.

After printing, the fabric was dried and heat treated. No ageing, soaping, or other after treatment was necessary. The soft hand of the fabric was unimpaired.

Note the sharpness of mark, the unusual color combination, and the bright green peg —all made possible by the use of Aridye Pigment Colors.

Like Cotonificio Bustese, leading textile printers in many parts of the world are becoming increasingly aware of the many advantages of Aridye Pigment Colors. An Interchemical technical representative will be glad to discuss the numerous ways in which they will be of benefit to you. For full details, write to Interchemical Corporation, Textile Colors Division—Box 357, Fair Lawn, N. J.

'Round The World With Aridye



Aridye *Pigment Colors*

CHECK THESE EIGHT ADVANTAGES

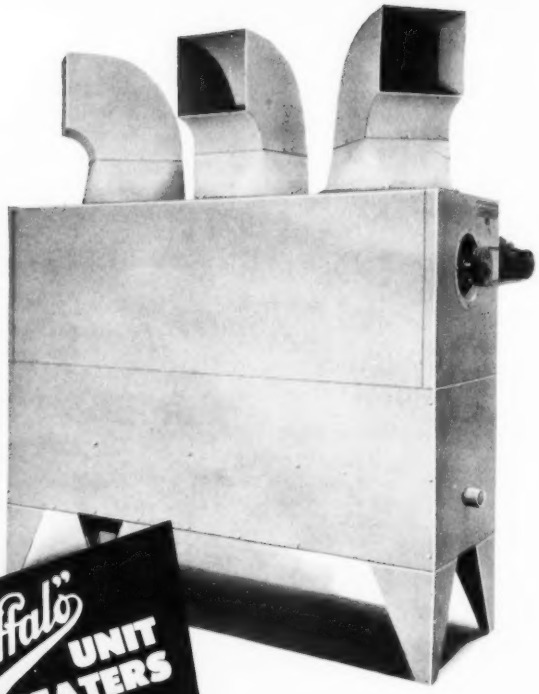
Sharpness of Mark • *Exceptional Fastness to Sunlight* • *Uniformity of Shade* • *Fastness to Washing* • *Bright Colors* • *Economy* • *Ease of Application* • *No Impairment of Hand*

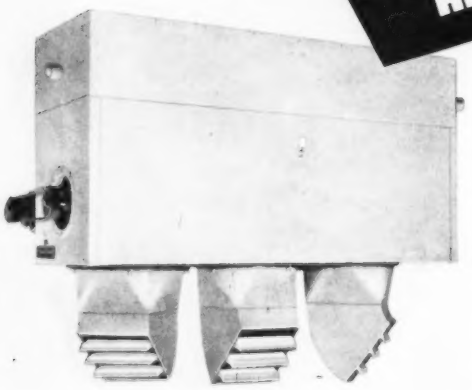
INTERCHEMICAL CORPORATION, TEXTILE COLORS DIVISION • FAIR LAWN, N. J. • ROCK HILL, S. C. • PAWTUCKET, R. I.

Sole Distributor for Italy: Commerciale Minerva S.A., Via S. Radegonda, 8, Milano

Dependable Heat for LARGE AREAS

And You Can Move These Sturdy SECTIONALIZED HEATERS Into Your Plant Through Standard Doorways!





Above, a "Buffalo" Inverted Lowboy Heater with 45 elbows and deflectors. Automatic controls are available. For information on the models your plant needs, WRITE FOR BULLETIN 5704.

Here's quick, economical heat for your plant next winter — to keep workers comfortable, healthy and productive! "Buffalo" Unit Heaters come in a wide range of capacities to deliver AS MUCH heat as you need RIGHT WHERE YOU NEED IT. They're heavy-duty, too, casings and outlets made to STAND UP. New high-efficiency all-aluminum "Buffalo" Fan wheels with hollow shafts mean better movement of heated air for your plant.

And the new Model "F" Sectional construction means you can move even the largest sizes of "Buffalo" Unit Heaters into your plant easily and inexpensively. No tearing down walls! Also, to make the installation job as simple as possible, "Buffalo" Unit Heaters are made in flat Lowboy models for ceiling or wall suspension—and in Floor Model Highboys. You save on space, installation cost and heating cost when you heat your plant with "Buffalo" Unit Heaters! WRITE TODAY FOR ALL THE FACTS!

Right, FAN ENGINEERING, 5th Edition, is the Bible of the industry. 808 pages of helpful, authoritative facts on air. $6.00 Postpaid in U. S. A.

"Buffalo" FIRST FOR FANS

BUFFALO FORGE COMPANY

184 MORTIMER ST. BUFFALO, N. Y.

Canadian Blower & Forge Co., Ltd., Kitchener, Ont. Branch offices in all Principal Cities

VENTILATING FORCED DRAFT AIR WASHING COOLING AIR TEMPERING HEATING INDUCED DRAFT EXHAUSTING PRESSURE BLOWING

he waits for the deduction until the pensions are actually paid, it is much less expensive to finance pensions under a funded plan than under a pay-as-you-go program, with pensions paid directly from payroll. Allowing for the value of interest on the accelerated tax deductions and for the exemption from tax of pension-fund earnings, a usual result is that it costs an employer only about 40¢ per dollar of pensions provided under a funded plan as against a 62¢ cost per dollar for pay-as-you-go pensions, with corporation taxes at 38%. Stated differently, a funded plan permits about 50% higher benefits than an unfunded plan, with income-tax savings making up the difference.

Pay-as-you-go pensions are also unsatisfactory because they constitute a mounting and steady drain on the business in good and bad years alike. Furthermore, the outlay is of little value in improving relations with active employees who have no assurance that they will benefit.

Another objection to a funded plan has been that the cost of pensions for past service cannot be financed. This impression is frequently based on a misunderstanding of what this item really represents. The financing method has a major influence on the solution. Use of a composite fund either invested in securities (self-administration) or held by an insurance company to purchase annuities for retiring employees (deposit administration group annuity) permits the funding of the past-service cost over a long period of years with contributions according to the company's fluctuating financial status. This may not be possible if the full value of the pensions of employees must be contributed by the time they retire as well as the pro-rata funding of pension credits of active employees, as is usually the case if the plan is financed by the purchase of typical group or individual annuities from an insurance company. The latter or its counterpart, the use of individual level-premium retirement income with insurance policies, allows for the least flexibility in the timing of employer contributions.

DEFERRED - DISTRIBUTION PLANS. Some companies have established deferred-distribution profit-sharing plans because it was felt that the establishment of a pension plan would commit the company to a fixed-cost commitment, payable in bad years as well as good. As a practical matter, the tax law permits establishment of a pension plan that allows the making of peak payments in good years, normal payments in normal years, and reduction or elimination of contri-

No matter what you're planning to build, chances are you can do it faster, easier and at lower cost

WITH

Luria buildings are *permanent*, heavy steel frame structures—easily adaptable to practically any building requirement. Yet they cost little or no more than lightweight temporary buildings. And they're *available now*—ready for prompt delivery!

SEND FOR YOUR COPY
of this new 20-page
catalog today

LURIA ENGINEERING CORP.
Dept. T10, 500 Fifth Avenue
New York 18, New York

Speed Up Your Old Equipment with New Load-Floating Colson Casters

Rolling equipment that doesn't roll easily reduces efficiency and profits in your mill. There are 1458 standard Colson casters—many designed especially for Textile mills. They roll easily over all floors, swivel freely, are rust-resistant. Many models have thread guards. Colson also manufactures a wide range of trucks for the Textile Industry—hand trucks, platform trucks, box trucks, drum and barrel trucks and special devices. Write us or consult your phone book for the local Colson office.

Model 3-427-16 with thread guards, designed especially for the Textile Industry.

Write Today For Free 68 Page Catalog

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • • LIFT JACK SYSTEMS • • INDUSTRIAL TRUCKS

NEW

COMBINATION VULCANIZED FIBRE AND ALUMINUM TRUCK—Patent #2468375

Constructed of Genuine Vulcanized Fibre, with Aluminum Slotted Bottom, Aluminum side braces, Special and Exclusive one-piece Aluminum Extrusion Top Rail. May be made in three styles—ROUND CORNER, STREAMLINE or SQUARE, with slatted bottom. Durable construction, Lighter than aluminum trucks. Durable — Great Tensile Strength—All Corrosion Eliminated. No future repairs or replacements necessary. Full details on request.

J. C. PADDOCK COMPANY

Manufacturers of Textile Hand Trucks and Equipment

Phone 962 **Spartanburg, S. C.**

For *Economical* Maintenance

COLE ELEVATED TANKS

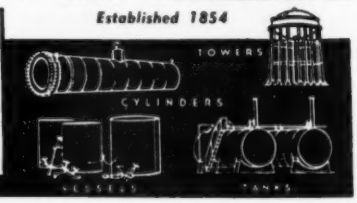
• Design plays an important part in tank maintenance. Experienced engineers design Cole tanks for easy access and minimum maintenance costs, as well as for permanence, safety, and dependability. Send us your inquiries for tanks 5,000 to 2,000,000 gallons—stating capacity, height to bottom, and location. Write for latest Cole catalog—"Tank Talk."

•

R. D. COLE MANUFACTURING CO.

NEWNAN, GA.

Established 1854



butions in years of business necessity. A profit-sharing plan, on the other hand, commits the employer to contribute a portion of profits in all years under a fixed, predetermined-contribution formula. This may be disadvantageous if a need arises to apply profits toward expenditures that must be made for competitive reasons.

Furthermore, a tax-qualified deferred profit-sharing plan provides for the allocation and accumulation of individual-fund accounts for every employee on a basis such that there can usually be no effective weighting for age or length of service. The consequence is that it generally takes 15 to 25 years of maximum tax-deductible contributions before sufficient amounts are allocated to take care of the retirement needs of employees, depending on their salary level, so that such a system cannot take the place of a pension plan for at least 15 to 25 years.

Under a pension plan, tax-deductible contributions can be applied to pay pensions from the start of the plan to aged employees in amounts sufficient to meet their needs and commensurate with their length of service.

From the point of view of long-service employees, a new profit sharing plan is unsatisfactory because they are faced with continuing uncertainty as to whether they will be able to live on the benefits accumulated, dependent as they are on the factor of insufficient time to build adequate pensions, plus the uncertainty of future profits.

Most sharing plans were established during the period of salary stabilization to provide a form of deferred compensation in lieu of immediate wage or salary increases. Many of these are now being changed into effective pension systems, which will solve the immediate as well as the long-range employee-retirement problem.

RETIREMENT AGE. Pension plans usually provide for retirement of employees at the age of 65, when social-security benefits begin for qualified individuals who earn less than $15 a month in covered employments. For example, it is usual to provide that employees will normally retire on the plan anniversary nearest the 65th birthday. However, an employee aged 55 or over may retire with company consent and receive a reduced pension based on service to the date of retirement. Few employees may be expected to be able to retire under this early-retirement provision, however, since the benefits are lowered due to actuarial factors and loss of the credit that would otherwise be earned for the remaining years of service to age

Have you tried this LOW-COST Oakite Way to Clean Mill Machinery?

Would you be interested if you could save up to 45% of the cost of the material you use for cleaning weaving looms, spinning frames, winding and twisting machines?

Removing dirt, oil, grease and lint from machines after warp runs out, is a necessary maintenance job which, if neglected, would affect to some degree the operating efficiency of a machine or prove a contributing cause of defective goods. Moreover, when oil, grease or dirt get on goods, they add to the problems in the finishing processes.

Mills Discover NEW
Cost-Cutting Emulsion-Type Detergent

Previously, many mills have used hydro-carbon solvents for machine cleanup. But now they have discovered a new, LOW-COST, successful way to handle this work by using Oakite Composition No. 99. Employed in dilutions with water, it SAVES MONEY by CUTTING COST of detergent material to approximately 7½¢ a gallon and less. The EMULSION-DETERGENT solution provided by Oakite Composition No. 99 is non-flammable and non-combustible, has rapid cleaning action, does not cause rust, is safe on painted surfaces, safe to use and handle. It has pleasant odor that makes it acceptable to employees assigned to machine clean-up.

MAKE TESTS . . .
See The Improved Results Yourself

Call in the Oakite Technical Service Representative in your locality. Ask him to show you how easily this Oakite EMULSION-DETERGENT cleans . . . how it can save up to 45% in detergent cost. Or send for free special Service Report giving further information. Oakite Products, Inc., 42 Thames St., New York 6, N. Y.

OAKITE 1909 1949 40th ANNIVERSARY YEAR

OAKITE

REG. U. S. PAT. OFF.

INDUSTRIAL CLEANING MATERIALS • METHODS • SERVICE

Technical Service Representatives Located in Principal Cities of United States and Canada

You Can't Afford to Ignore These EXPANDER Facts

Send for BULLETIN EC Now!

Here are some of the subjects covered in this new 6-page bulletin:—

Mount Hope Sealed End Expander
Mount Hope Batcher Expander (Counterweight and Spring Type)
Mount Hope Adjustable Expander
Mount Hope Expander for Tire Cord Fabrics
Single, Double and Triple Brackets
Bar Mounted Brackets
Flange Brackets

All Mount Hope Expanders are "free-wheeling," i.e. with ball bearing mounted Neoprene sleeves. Minimum tension on the warp, which is pulled over the sleeve, greatly increases the spreading effect of the expander and increases the life of the Neoprene surface.

Other advantages are listed in BULLETIN E. C. *Send for your copy today.*

MOUNT HOPE MACHINERY CO.

42 Adams St., Taunton, Mass., U. S. A.

Mount Hope Free-Wheeling EXPANDER

You Couldn't Find An Easier, Quicker Sudsing Soap or Flakes Than...

DRUMMOND

LEAVES FABRICS CLEAN . . . SOFTER . . . COLORFUL

As Free Sample Will Show You!

Both DRUMMOND Soap and Flakes have the advantage of high body and low alkali content . . . an advantage that instantly leaves fabrics clean with a downier feel, brighter color and whiter white.

We offer you a free sample to show you what we mean.

Easier—quicker-sudsing DRUMMOND—that's the answer to your cleaning problems.

Write today for your ample-size sample of DRUMMOND Soap—just ask for Flakes or Solid.

TEXTILE OILS AND SPECIALTIES

Standard Soap Co. of Camden

205 South 2nd St., CAMDEN, N. J.

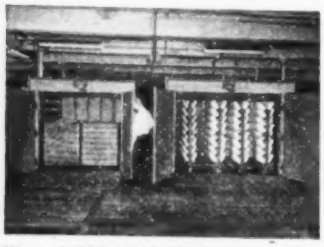
James A. Greer, Southern Manager, P. O. Box 306, Greenville, S. C.

Series 8 of typical "H-W" CONDITIONER applications

LIMERICK YARN MILLS *REPORT:*

"Very well satisfied with our "H-W" CONDITIONERS"

"We have been very well satisfied with our H-W* Conditioners, as you no doubt know, since we have purchased two additional units, after our first experience with your yarn conditioning and twist setting machine. We use the boxes principally for twist setting of single or 2 ply yarns and find good results right thru our largest packages. The controls permit setting of the wet and dry bulb temperatures, to give us practically any condition of temperature and humidity we require. One feature which we like is that frequently it is necessary to wind the yarn at once after twist setting and, even under these conditions, we find that penetration has been complete and no setting or cooling off period is required."



View of "H-W" CONDITIONER installed in Limerick Yarn Mills, Manchester, N. H.

LIMERICK YARN MILLS
R. W. PARKIN, Production Mgr.

Full particulars in Bulletin UC-1, upon request.

*Trade-Mark Reg. U.S.A.

The Industrial Dryer Corporation
STAMFORD, CONN.

65. Besides, social-security benefits do not begin until 65.

Recognizing that there will be cases in which employees become less efficient before age 65, the plan may provide that in the event of approved early retirement (usually at sole discretion of employer) an additional benefit will be provided as a social-security offset, in an amount approximately equal to the social-security benefit. This amount in addition to the actuarially reduced pension payable for life, is paid until the social-security benefit begins at the age of 65.

Because of the inadequacy of reduced pensions payable much before the age of 65, provision may be made for special treatment for employees who must be retired on account of permanent and total disability. Disability pensions can be provided with a modest increase in contributions, on a basis separate from the other provisions of the plan, with the understanding that it would be kept in operation only so long as the costs remain within the anticipated disability experience. Additional early retirement and disability pensions are particularly desirable because of the necessity to preserve active and efficient personnel.

If desirable, most pension plans allow certain employees to remain at work after normal retirement date, subject to annual review. This review assures automatic reconsideration of such cases to prevent an undesirable situation from developing. Year-to-year approval is sometimes required to make it more difficult for management to retain employees after the normal retirement age.

The cost of a pension plan is frequently paid entirely by the employer. Younger employees, especially women, may not wish to contribute because they do not envision remaining in service to old age. Employee contributions may also be avoided because of the administrative expense involved in the collection and keeping of records of employee contributions in a high-turnover group and because the corresponding employer expense of providing for the individuals who do stay to retirement is small. However, employee contributions are an integral part of many sound plans.

The absence of a good pension plan leaves the door open for demands for pensions by labor organizations, since employers must now bargain on pension plans. Although these demands have, so far, been largely confined to situations involving a high proportion of older employees, it is only a question of time until they arise in younger organizations, after more pressing demands for increased wages

Cotton Classing by MACBETH

The New Standard

Yes, Macbeth Cotton Classing Skylights are rapidly becoming the standard for classing throughout the entire cotton trade. Classers like the constant, accurate light, available in any weather, 24 hours a day. Be sure of your classing, standardize on Macbeth. Your inquiry is invited.

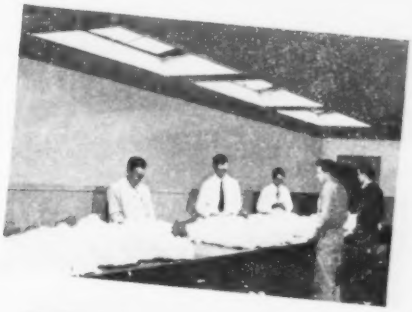


Photo upper right: Courtesy
Anderson, Clayton & Co., Memphis, Tenn.
Photo lower right: Courtesy
Deering, Milliken Mills, Union, S. C.

MACBETH CORPORATION
227 WEST 17th ST., NEW YORK 11, N. Y..

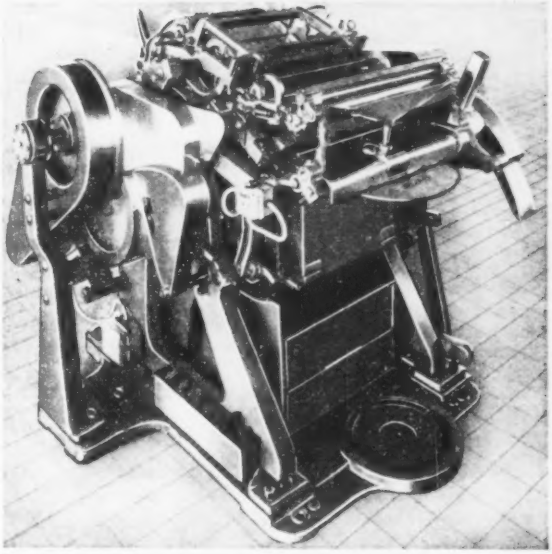
Southern Office: 513 So. Tryon Street
Charlotte, N. C.

RUMI • CARDS • COMBERS • LOOMS

- COMBING MACHINES FOR CONTINENTAL WORSTED SYSTEM
- CARDS FOR COTTON AND RAYON STAPLE
- LOOMS FOR COTTON, RAYON, SILK

Single-head, rectilinear, horizontal combing machine. Feed up to 24 slivers. 6-in. circular comb with 18 rows of needles. Smooth movement and quiet in operation. Production from 140 to 300 pounds in 10 hours of operation. Send for complete information. Prompt Delivery.

RUMI
Fonderie-Officine
Bergamo, Italy



Exclusive Representatives for U. S. A.
Rostan Machinery & Equipment Company • 75 West Street, New York 6, N. Y.

Wide automatic Cotton Loom

Automatic Looms. Automatic weft winders. High-speed beam warpers. Complete range of Finishing machinery.

Sole Exporters:

KOVO **Ltd., Jungmannova 29, Praha II., Czechoslovakia.**

it takes GOOD BEAMS to make good warps!

PROBLEM: ORDINARY BEAMS WON'T HANDLE THE PRESSURES OF NYLON AND RUBBER YARNS!

solution . . .

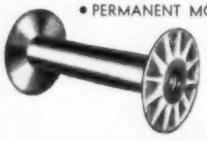
MILTON NYLON & RUBBER TRICOT BEAM

• FORGED HEADS
• RIGID BARRELS

Tested and proven under actual operating conditions, here is Milton's forged head beam designed especially to withstand extreme pressures encountered when warping tremendous yardages of monofilament; fine denier, low turn nylon; and rubber yarns! Heat-treated, aluminum alloy heads and barrels permanently joined with continuous heliarc welds. Write for complete information!

MILTON LIGHT METAL BEAMS are the result of years of close collaboration with mill production men . . .

• PERMANENT MOLD HEAD TRICOT BEAMS



SECTION BEAMS

MILTON MACHINE WORKS, Inc.
DESIGNERS — ENGINEERS — MANUFACTURERS
MILTON, PENNA.

and better working conditions are satisfied. Employers without pension plans who have been faced recently with such demands have found themselves in a very vulnerable position, especially if the matter becomes the subject of arbitration. The resulting arrangement is likely to be far different from a plan established through employer initiative, and the employer finds he has missed the boat in not being able to utilize the program as a means of increasing loyalty and good will.

Only under a properly designed, funded plan does an employer secure the best results in employee appreciation. If employees are provided with pensions that are not financed in advance of payment, they cannot be expected to look upon the program with enthusiasm, since they have no assurance that the company will be able to pay them when they retire, or even that it will then be in business.

From an accounting standpoint, it is also advisable that the cost of superannuation be met as it is incurred, during the working lives of employees when the liability accumulates. Postponement of the adoption of a soundly financed retirement program has the effect of saddling the future of the organization with the cost of doing business over many years in the past. It is also much more advantageous to let employees know that pensions are being financed for them during their years of active service than to leave them in doubt as to their situation when their working days are over.

Textile Equipment News

(Continued from page 154)

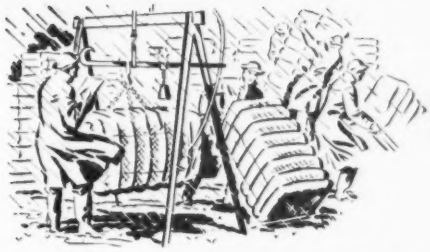
on the heating surface with woven glass fiber cloth.

The glass-fiber heaters are supported on carriages equipped with air-operated retractors enabling the operator to raise or lower the panels when the machine is started and stopped.

The radiant-heat panels are positioned within 1 or 2 in. of the face of the coated cloth during the fusing operation, and give the cloth the greatest benefit from the energy furnished by the radiant-heat panels. Several radiant-heat panels are provided to heat the underside of the cloth. The temperature of the panels is maintained by control instruments.

The exhaust-air system mentioned previously is on sides of the fusing section, with outlets positioned on a level with the cloth. An additional exhaust-vapor collecting duct is provided at the outlet end of the fusing unit.

Even though the heating surfaces



JUST HOW MUCH WATER are you paying for ?

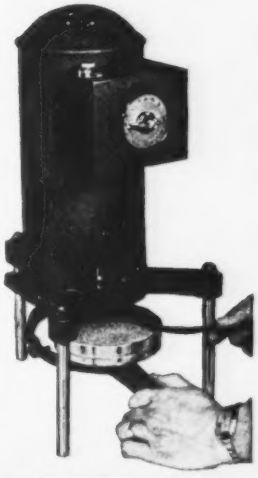
If you are buying material by weight, you naturally do not want to pay for any water it may contain. Likewise, if moisture affects your manufacturing processes, it should be carefully controlled.

The Dietert Moisture Teller is the quickest way to find out accurately the moisture content of practically any material with which you may be working. Weigh a sample on the new computing beam balance with catch weight. Then, put it in the Moisture Teller which quickly drives off all moisture. Rebalance and read percent moisture directly—no computation or interpolation.

Likewise, no calibration is necessary since moisture is determined gravimetrically and just as accurately as when the sample is dried in the laboratory oven, but much faster. One or several samples may be dried at the same time.

The Moisture Teller is available in several models and sizes to economically satisfy practically any requirement you may have.

5204

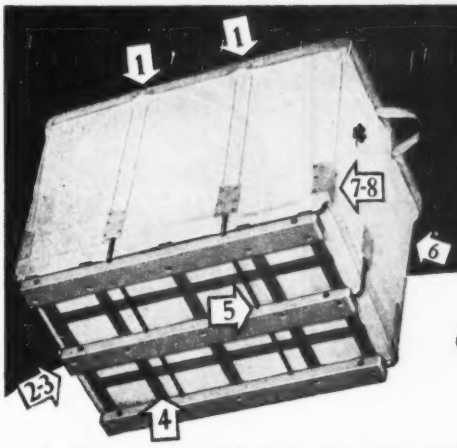


Write to Department 15 for full specifications and prices.

Harry W. DIETERT Company

9330 Roselawn Ave. Detroit 4, Michigan

CONTROL EQUIPMENT • SAND • MOLD • MOISTURE • CARBON • SULFUR



Compare point for point

with any other basket, and you'll use

SHAMROCK

CANVAS BASKETS, HAMPERS, TRUCKS

Only Shamrocks give you ALL THESE FEATURES

1. Spring steel used in frame is actually 25% higher tensile strength. 2. Full 2" x 1" wood runners. 3. Runners cross-riveted at ends to prevent splitting. (No. 12, 14, 15 and 21 styles.) 4. Rust-proof steel bottom. 5. All runners cross-grooved. 6. Extra heavy duck. Meets government specifications; actually 20% stronger. 7. End of sewing seams brass riveted. 8. Leather reinforcements around top and ends of strips on all popular styles. (Casters on trucks of proper capacity to carry load and give mobility.)

Write for complete catalog—MEESE, Inc., Madison, Ind.

Ask your jobber!

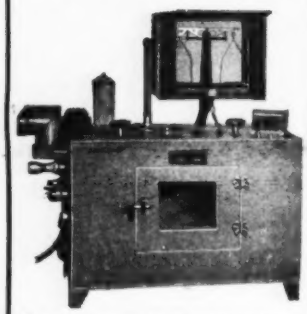
261 Mitchell St.

SPECIALIZED MANAGEMENT SERVICE
for the
TEXTILE INDUSTRY

- Wage incentive plans
- Cost control methods
- Standard cost installations
- Mechanical and operating surveys — method improvements
- Market research — sales policies
- Plant appraisals

Write or phone
DR. ROY HERRMANN
Economist & Management Consultant
66 EAST 93rd ST., NEW YORK 28, N.Y.
Telephone: Sacramento 2-4416

Textile Testing



For accurate testing of water content in yarn. The 8-basket oven, with 3" x 3" baskets, may be changed to 6 baskets, 4¼" x 4¼", both 6" deep. Occupies table space 20" x 40".

EMERSON Ovens

Are built in different types to handle wool, cotton and silk. Baskets are designed specially for each class of work.

Write for details on EMERSON OVENS to fit your process.

✦

EMERSON APPARATUS CO.
177 Tremont St., Melrose 76, Mass.

of the radiant-heat panels are approximately 600° F., the outer covering of aluminum on the radiant-heat panels remain almost at room temperature.

As the fabric enters the fusing section, it contains the full thickness of coating varying in weight from 4 to 32 oz. per sq.yd.

The fabric, as it is passed from the double unroll stand constructed for continuous operation, passes over a spreader roll to eliminate wrinkles.

The spreading knife is of a standard type equipped with side dams to prevent the paste from flowing outside the width of the cloth.

The spreading knife is positioned above a rubber blanket ½ in. thick which takes the place of the conventional bed plate and supports the coating paste. One of the rolls supporting the rubber blanket is adjustable to keep the blanket in close alignment. Thickness of coats can be varied by raising or lowering the spreading knife in relation to the rubber blanket. The coated fabric enters the fusing section immediately after passing under the spreading knife.

When the coated cloth leaves the fusing section, it passes between the nip of an upper engraved water-cooled low-weight steel roll and a lower rubber roll. The lower rubber covered roll is used with all patterns of upper embossing or forming rolls, eliminating the need of a paper-filled roll. This feature is said to offer a considerable saving in machinery investment as well as more speed in changing embossing rolls.

After the embossing operation, the cloth is led around cooling drums and then to a double winder constructed for continuous operation.

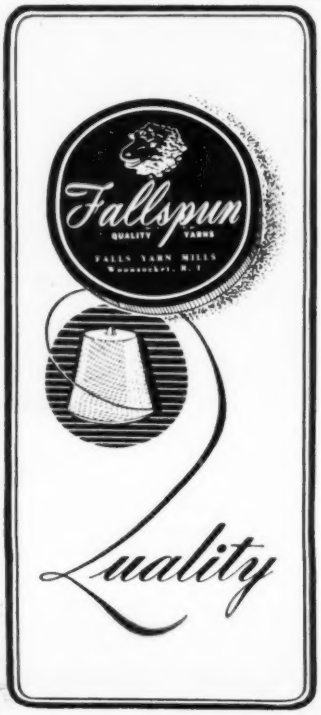
The machine operates at a speed of 15 to 35 yd. per min. Coating weight up to 32 dry oz. per sq. yd. can be applied in one coat.

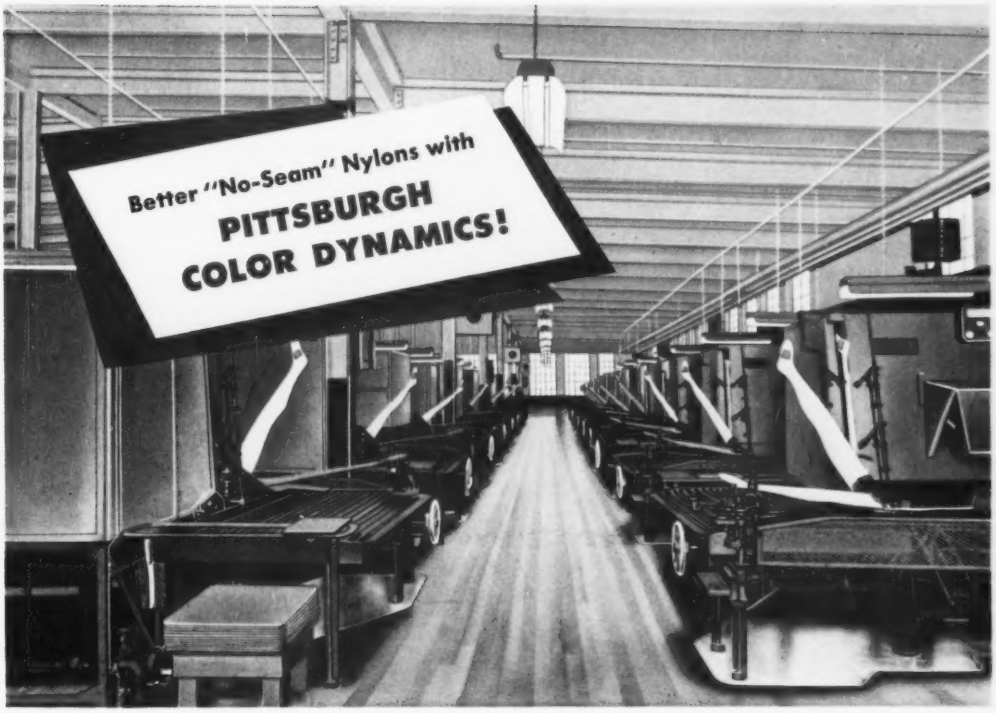
If smooth coating is desired, a chrome-plated smooth-faced roll may be used in place of the engraved forming rolls.

The drive for the machine consists of a constant-speed motor with a mechanical variable-speed unit tied into a lay-shaft drive with enclosed bevel-gear drives to the rubber blanket, embossing rolls, cooling drums, and the double-center winder.

If a higher luster and smoother finish is desired on the surface of the Zapon-Plastisol coated fabric, the coated cloth is processed on a burnishing machine in a secondary operation. The burnishing machine consists of conventional unroll equipment in conjunction with an especially designed 36-in. diameter chrome-plated heated drum for heating and burnishing the coated surface of the cloth,

The finest machines for every knitted fabric
Mellor Bromley
Write for descriptive leaflets of the Mellor Bromley Interlock and many other top line machines
MELLOR BROMLEY & CO. LTD.
LEICESTER, ENGLAND
Pullovers and cardigans—"Superloop" underwear fabric—Jacquard shaped vests with draw thread and welt—Jacquard outerwear—Elastic web and foundation garments—Interlock—Jacquard shaped underwear—Dress fabrics—Rib fabrics and rib ends—Multifeeder plain fabrics.





New, Scientific Painting System Improves Efficiency and Quality of Production at Hanes Hosiery Mills

WHETHER you build giant locomotives or fashion filmy hosiery—color properly engineered in your plant according to the principles of Pittsburgh COLOR DYNAMICS will help improve the quality of your output.

Characteristic of the benefits of this new painting system are the results in the Hanes Hosiery Mills, of Winston-Salem, N. C., whose "No-Seam" Nylons are one of America's leading brands.

"Since we painted our plant according to COLOR DYNAMICS," writes R. B. Crawford, vice-president of this company, "we have noted a definite improvement in production. Our operators now see their work better and do a better 'boarding' job. Inspection of finished goods is performed more speedily and with greater carefulness."

Actual experiences in a wide variety of industries confirm such reports of improvement in efficiency, well-being, morale and safety among workers. For the principles of COLOR DYNAMICS are based upon the natural reactions of human beings to the *energy in color.*

Where COLOR DYNAMICS is used, every color on walls, floors, ceilings, machines and mobile equipment performs definite duties. Focal and eye-rest colors lessen eye-fatigue. Morale-building colors restrain mental depression. Safety colors warn of impending danger.

You can readily test the value of Pittsburgh COLOR DYNAMICS on a machine or two in your plant—or in one department. Note the difference it makes—in efficiency and well-being of your employees and in the kind and volume of work they turn out.

SEND FOR A COPY OF THIS BOOK!

Our booklet—"COLOR DYNAMICS IN INDUSTRY"—explains this new painting system and how you can use it in your plant. Mail this coupon for your FREE copy.

Pittsburgh Plate Glass Co., Paint Div.
Department TW-79, Pittsburgh 22, Pa.

Please send me a FREE copy of your new revised and enlarged Booklet, "*Color Dynamics in Industry*"

Name _____

Street _____

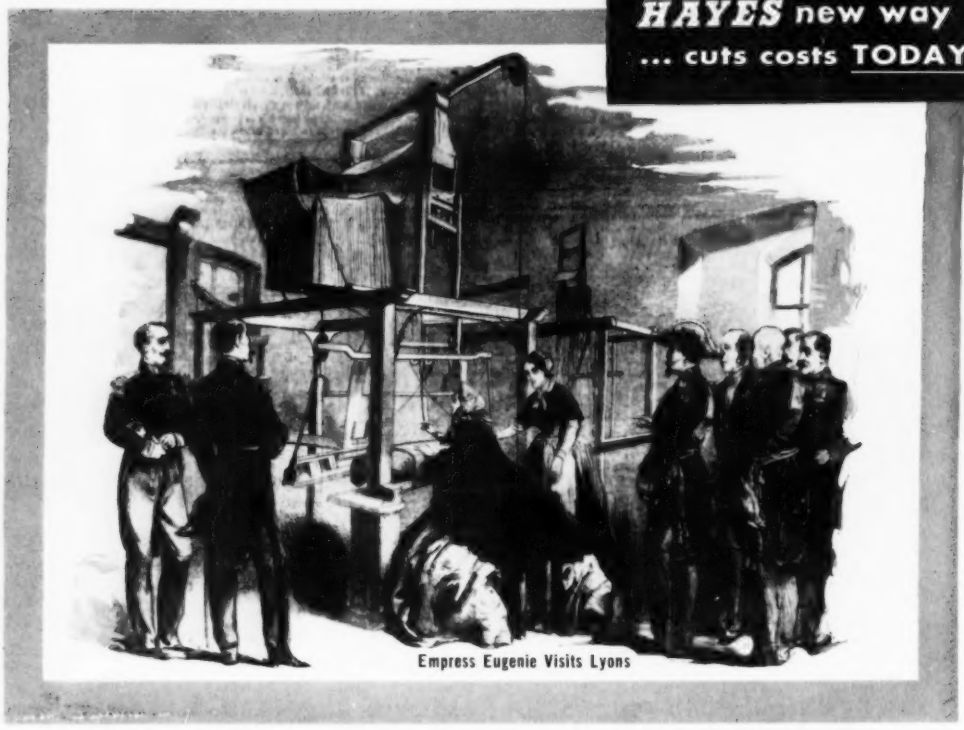
City _____ State _____

PITTSBURGH PAINTS

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

HAYES new way
... cuts costs **TODAY**



Empress Eugenie Visits Lyons

Modern Mills Reduce Costs with Light Metal Beams

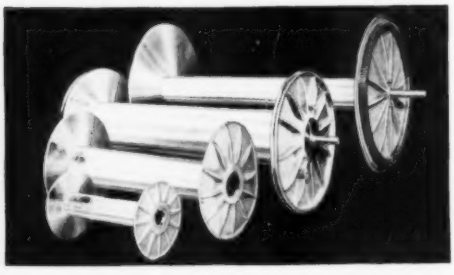
Imagine! Empress Eugenie worked the loom herself . . . and all Lyons was thrilled as the royal lady viewed their progressive textile center. And why not? For here, not many years before, Jacquard had invented his notable pattern-weaving loom, a major development.

A modern development . . . one that appreciably reduces the costs of production . . . is Aluminum and Magnesium beams. Beams made of these light metals, by Hayes Industries, weigh less than half as much as conventional types. Every time a beam, loaded or empty, is shipped or handled, there is a saving. With modern volume production this saving adds up to a respectable percent of profit.

Besides shipping costs, there are numerous other advantages. Because they do not splinter, snag or rust, like wood beams and cast iron, there are fewer rejects and seconds using light metal beams. Selvage edges are perfect, due to low head deflection. Fine balance permits top machine speeds . . . maximum production.

Perhaps your profit is less because costs are high. Investigate Hayes light metal beams . . . and learn their profit-building potential.

Write or wire for complete information on Loom Beams, Section Beams and Tricot Beams. Ask for Catalog 1-21.



HAYES

INDUSTRIES, INC.

HOME OFFICE: **Jackson, Michigan**

BARNES PRODUCTS—"Best for the Job"

COMBINATION BELTINGS

GAM-OIL
and
BARNES OAK

Specifically used on shockload drives for immediate starts with no slipping or stretching. For condenser drives, eccentric drives, mule drives, spinning-frame drives. Gam-Oil ply, which has the highest coefficient of friction of any of our leathers, goes next to pulley. The oak ply on top, for weight and firmness against shipper and flanged pulleys. This belt is especially adaptable to picker drives which have changing loads.

MULE DRIVE

ECCENTRIC DRIVE

Engineering Service. Ask Barnes Engineers for recommendations on your drive.

HENRY K. BARNES COMPANY

BARNES Textile Leather

TANNERS and MANUFACTURERS HOUSE

SALEM, MASSACHUSETTS

QUALITY RICHMOND PRODUCTS

IN HOSIERY DYEING

Use

ROSOFT

PREVENTS STICKING TO THE BOARDS

Imparts A Good Hand Without Affecting Firmness

A MONEY SAVER

ECONOMICAL TO USE

SEND FOR SAMPLES

SOUTHERN OFFICE
617 JOHNSTON BUILDING
CHARLOTTE, N. C.
Charlotte 2-1428

RICHMOND OIL, SOAP & CHEMICAL CO., Inc.
1041-43 FRANKFORD AVE
PHILADELPHIA 25 PA

and a cooling drum with rewind attachment.

To request further information, please use the card on page C of the Reader-Service Department; refer to T-47.

New Machine Tests Knit Shrinkage

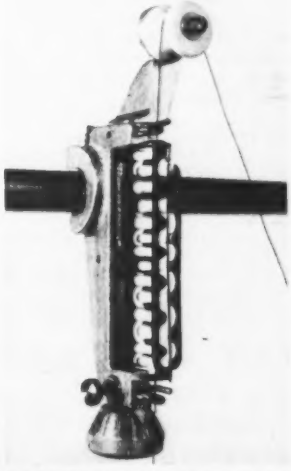
DIMENSION STABILITY TESTER, being developed by U. S. Testing Co., uses a circular sample. Machine at left is improved-model lubricity tester.

For further information, use the card on page C in the Reader-Service Department. (T-48)

Gate Tension Is Easily Adjustable

A new precision gate tension, No. 57-AF-134, for use in any winding operation, has been developed by F. A. Lazenby & Co., 3106 Elm Ave., Baltimore 11, Md. The tension is said to be free from weights and to operate by a spring tension. A wheel indicator is designed to eliminate guesswork in setting all units at equal tension.

An easy releasing and locking device permits use of any desired increase or

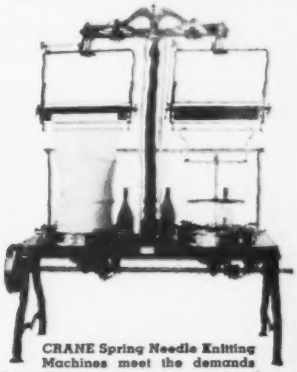


NEW GATE TENSION can be easily adjusted to give tension equal to all other units.

1870 CRANE 1949

SPRING NEEDLE KNITTING MACHINES

Speed - Quality - Low Cost



CRANE Spring Needle Knitting Machines meet the demands of rapidly changing patterns and styles on all weights of fabrics.

CRANE

MANUFACTURING CO.

LAKEPORT, N. H.

RAYON or NYLON

CAKE TRUCK

Simplifies steaming of cakes and increases yarn handling efficiency.

Trucks made to order to fit your own ovens in capacities from 75 to 98 cakes. Polished brass arms hold and protect the yarn cakes. Strong easy rolling casters assure free movement of truck from oven to machines. What are your needs?—Let us serve you.

Write for prices now.

Wayne Manufacturing Co.
Honesdale, Pa.

Manufacturers of Textile Mill Supplies

Greater Service to Fork-Truck Users

Greater Opportunities for Men Who Sell Them—

Clark Dealer Plan Achieves Both

WITH sales of its fork-lift trucks and industrial towing tractors exceeding all expectations, and with its position of production and engineering leadership firmly rooted in rich, productive soil, Clark Equipment Company, in its 30th year as a builder of materials-handling machines, has found it desirable to establish a nation-wide organization of independent franchised dealers as exclusive distributors of the products of its Industrial Truck Division.

THIS is indeed a far cry from 1939 when the entire output of the Industrial Truck Division was sold with ease by a handful of men!

TODAY'S volume is twenty times that of 1939; and the Company's stature—financial and engineering—is more than twenty times as great as in 1939. A considerable number of the '39 machines are in daily service, and many older machines are in regular operation after 20 and 25 years. The conviction is natural that 30 years hence many '49 machines will still be "on the job" alongside the new output of 1979. There will be no "orphans" bearing the name "Clark."

TO KEEP PACE with increasing demands, and to deliver the broad and competent service which Industry expects from Clark, the Company has chosen this plan of selling through independent dealers as a sound and logical evolution. Until the middle of 1948, approximately one-third of Clark's Industrial Truck Division representatives were on an independent dealer basis. It is expected that by the end of 1949 the nation-wide dealer organization will be complete.

HEADING up the dealerships or actively participating in them are key men of Clark's erstwhile factory-branch sales offices—factory-trained men, tested and proved as capable materials-handling counselors. These men share with Clark management the conviction that they can deliver, under the new plan, a broader and more valuable service to their customers and to all users of mechanized materials-handling; that they face broader, deeper vistas of opportunities which ambitious men so earnestly desire—opportunities for independence, for building greater earnings by their own efforts, for achieving prestige and leadership in their communities.

ANOTHER influence which furthered the plan is the fact that Clark management historically has been engineers and manufacturers. By decentralizing marketing activities, Clark can intensify its emphasis on development of better materials-handling machines and methods—to the end that Clark products shall achieve even higher excellence at lower cost, shall become still more valuable to industrial users and to the dealers who serve them.

THROUGH your Clark dealer, all the advantages of Clark engineering, integrated production and matchless experience are quickly available to you. He is fully qualified to make an unbiased appraisal of your materials-handling operations, and to recommend the type of machine that will serve you most efficiently at lowest cost. It's "good business" to CONSULT CLARK.

CLARK EQUIPMENT COMPANY

INDUSTRIAL TRUCK DIVISION

BATTLE CREEK 27, MICHIGAN

OTHER PLANTS—BUCHANAN • JACKSON • BERRIEN SPRINGS, MICHIGAN

REPRESENTATIVES IN PRINCIPAL CITIES THROUGHOUT THE WORLD

AUTHORIZED CLARK DEALERS

ALABAMA: BIRMINGHAM
*M-H EQUIPMENT COMPANY
845 LOMB AVENUE

ARIZONA: PHOENIX
ROBERT H. BRAUN COMPANY
743 GRAND AVENUE

ARKANSAS: LITTLE ROCK
FRED J. VANDEMARK COMPANY
209 EAST MARKAM STREET

CALIFORNIA: FRESNO 1
ROBERT H. BRAUN COMPANY
505 MASON BUILDING

LOS ANGELES 23
*ROBERT H. BRAUN COMPANY
3008 EAST OLYMPIC BLVD.

OAKLAND 3
*GLEN L. CODMAN COMPANY
10521 PEARMAIN STREET

SAN DIEGO
ROBERT H. BRAUN COMPANY
3872 FIFTH AVENUE

STOCKTON
GLEN L. CODMAN COMPANY
409 BELDING BUILDING

COLORADO: DENVER 2
*J. N. MEADE
420 U. S. NATIONAL BANK
Service: FORK LIFT TRUCK SERVICE
2855 WEST 8TH AVENUE

CONNECTICUT: NEW HAVEN
*C. E. REUTTER CORPORATION
66 AMITY ROAD

FLORIDA: TAMPA
CLARK EQUIPMENT COMPANY
1145 ELLAMAE STREET

ILLINOIS: CHICAGO 4
*MODERN HANDLING EQUIP., INC.
310 SOUTH MICHIGAN AVENUE
Service: Cook County
LIFT TRUCK SERVICE COMPANY
6919 SOUTH HALSTED STREET

INDIANA: INDIANAPOLIS 5
*W. A. MARSCHKE & SONS
1121 E. 46TH STREET

SOUTH BEND 14
*MATERIALS HANDLING EQUIP. CO. OF SOUTH BEND, IND.
2625 SOUTH MICHIGAN STREET

IOWA: DAVENPORT
*BIG RIVER EQUIPMENT CO.
1344 WEST THIRD STREET

DES MOINES
*BIG RIVER EQUIPMENT CO.
914 GRAND AVENUE, ROOM 255

KANSAS: KANSAS CITY
Sales and Service:
(SEE KANSAS CITY, MISSOURI)

LOUISIANA: NEW ORLEANS
T. G. FRAZEE
910 CARONDELET BLDG.

MAINE: PORTLAND
BRODIE INDUSTRIAL TRUCKS, INC.
(CONTACT MALDEN, MASS.

MARYLAND: BALTIMORE
FALLSWAY SPRING & EQUIPMENT CO.
CORNER FALLSWAY & LEXINGTON

MASSACHUSETTS: BOSTON (MALDEN 48)
*BRODIE INDUSTRIAL TRUCKS, INC.
50 COMMERCIAL STREET, MALDEN 48

MICHIGAN: BATTLE CREEK
CLARK EQUIPMENT COMPANY
INDUSTRIAL TRUCK DIV. PLANT

DETROIT 2
*CLARK EQUIPMENT COMPANY
6520 CASS AVENUE
Service: INDUSTRIAL TRUCK SERVICE, INC.
8815 HARPER AVENUE

MINNESOTA: MINNEAPOLIS 7
*MATERIAL HANDLING ENGINEERS
225 SOUTH 5TH STREET, ROOM 201
Service: SMITH-DUNN COMPANY, INC.
2301 UNIVERSITY AVENUE, S. E.

MISSOURI: KANSAS CITY 6
*CLARK EQUIPMENT COMPANY
1009 BALTIMORE AVENUE
Service:
LIFT TRUCK SERVICE & SUPPLY
NORTHWEST 15TH AND McGEE STREETS

ST. LOUIS 8
*MATERIALS HANDLING EQUIPMENT CORP.
3820 WASHINGTON BLVD.
Service:
FORK LIFT TRUCK SERVICE CO.
511 CHANNING STREET

AUTHORIZED CLARK DEALERS

NEW JERSEY: JERSEY CITY
*JERSEY INDUSTRIAL TRUCKS, INC.
34 EXCHANGE PLACE
Service:
BOND INDUSTRIAL MAINTENANCE CO.
51 CLARKSON STREET AT GREENWICH
NEW YORK 14, NEW YORK

NEW YORK: BUFFALO
*BRODIE INDUSTRIAL TRUCKS INC.
1450 MICHIGAN AVENUE
NEW YORK 6
*BOND INDUSTRIAL EQUIPMENT CO.
165 BROADWAY, ROOM 2200 (OFFICE)
Service and Display Room:
51 CLARKSON STREET AT GREENWICH
NEW YORK 14—also
289 BOND STREET, BROOKLYN 31
SYRACUSE
BRODIE INDUSTRIAL TRUCKS INC.
712 STATE TOWER BLDG.
ALBANY (WATERVLIET)
*INDUSTRIAL TRUCK SALES, INC.
BROADWAY AT 25TH, WATERVLIET

NORTH CAROLINA: GREENSBORO
Service Outlet only:
INDUSTRIAL TRUCK SERVICE CORP.
629 SOUTH SPRING STREET

OHIO: CINCINNATI
ROBERT C. YOUNG, P. O. BOX 96
CLEVELAND
CLARK EQUIPMENT COMPANY
522 ROCKEFELLER BLDG.
TOLEDO 10
PERCIVAL L. REYNOLDS, 2558 FULTON STREET

OKLAHOMA: TULSA
ARST EQUIPMENT COMPANY
34 NORTH MADISON

OREGON: EUGENE
PRESTON FALLER COMPANY
891 TAYLOR STREET
PORTLAND 5
PRESTON FALLER COMPANY
1220 S. W. MORRISON STREET

PENNSYLVANIA: PHILADELPHIA 8
*CLARK EQUIPMENT COMPANY
401 NORTH BROAD STREET
Service:
PHILADELPHIA ENGINE REBUILDERS, INC.
330 WEST QUEENS LANE
PITTSBURGH
*MATERIAL HANDLING INCORPORATED
319 THIRD AVENUE

SOUTH DAKOTA: SIOUX FALLS
CENTURY EQUIPMENT & SUPPLY CO.
22 WEST 7TH STREET

TENNESSEE: MEMPHIS 3
*FRED J. VANDEMARK COMPANY
1110 UNION AVENUE

TEXAS: DALLAS
*T. G. FRAZEE
1012 FIRST NATIONAL BANK BLDG.
Service:
TRUCK EQUIPMENT COMPANY
2409 COMMERCE STREET
HOUSTON
*T. G. FRAZEE, 810 PETROLEUM BLDG.

UTAH: SALT LAKE CITY
A. J. ISAACSEN, JR.
45 SOUTH 3RD WEST STREET

VIRGINIA: NORFOLK
*McLEAN-SHAND, INC.
955 WEST 21ST STREET

WASHINGTON: SEATTLE 1
*PRESTON FALLER COMPANY
1921 MINOR AVENUE
SPOKANE 9
PRESTON FALLER COMPANY
EAST 41 GRAY AVENUE

WISCONSIN: MILWAUKEE 2
*CLARK EQUIPMENT COMPANY
759 NORTH MILWAUKEE AVENUE, ROOM 623
Service: LIFT TRUCK SERVICE CO.
5710 WEST NATIONAL AVENUE

DISTRICT OF COLUMBIA: WASHINGTON
CLARK EQUIPMENT COMPANY
927 15TH STREET N. W.

TERRITORY OF HAWAII: HONOLULU
*PRESSED STEEL CAR COMPANY
538 REED LANE, P. O. BOX 300

*Sales and Service.

For Names and Addresses of Export Distributors, write to: Export Division, Clark Equipment Co., Battle Creek, Mich., U.S.A.

reduction in tension quickly and accurately. The tension is adapated to the full range of drapery, tapestry, and upholstery yarns of cotton, silk, and rayon. It can also be used in woolen, worsted, and carpet and rug mills.

Tensions are available in either white porcelain or Alsimag fingers. Prompt delivery can be made, usually from stock. Price in small lots is $8.00 each, but in quantities of 25 or more, $7.25 each, F.O.B. Baltimore, Md.

To request further information, please use the card on page C of the Reader-Service Department; refer to T-43.

Laminated Frame Protects Hosiery

TURNING FORM, demonstrated by Miss Josephine Weber, has groove to protect stocking while turning it right-side out before being inspected. It was developed by Synthane Corp.

For further information, use the card on page C in the Reader-Service Department. (T-49)

Individual Card Drive Provides Variable Speed

An individual drive especially adaptable to card operation has been developed by The American Pulley Co., 4200 Wissahickon Ave., Philadelphia 29, Pa. The individual drive utilizes a special high-torque, 1½-hp., 1,750-rpm. motor driving a 5-to-1 ratio helical gear reducer through an adjustable-diameter sheave and a single steel-cable V-belt.

The drive is said to combine low first cost, flexibility of operation, and space-saving features. The entire drive is designed to handle the heavy starting load of a card and yet operate efficiently at the minimum running horsepower.

The unit is designed to provide a 20% variation in driven speeds with no loss in over-all drive efficiency to insure the correct speed for processing various fibers under all conditions. The drive also provides for stripping and grinding the card.

Because it is an individual drive, machines can be located for more efficient over-all plant operation. Additional advantages claimed are that adequate lighting can be installed, air

You Can Count on

WAK*

COUNTERS

- RUGGED
- ACCURATE
- DEPENDABLE

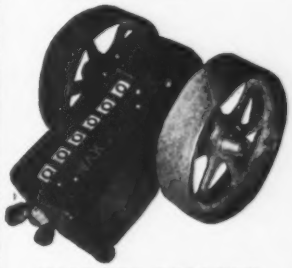
HOSIERY COUNTER

Counts each hose
Rings Bell At Each Dozen Pair
Counts Number of Dozen Pair
Patent Applied For

WE BUILD . . .

RESET AND NON-RESET

Single Pick Counters
Double Pick Counters
Triple Pick Counters
Rachet Counters
Rotary Counters
Slasher Counters
Tenter Counters
Twister Counters
Inspection Table Counters
Sewing Machine Counters
Yardage Counters
Folding Machine Counters
Hank Clocks
Special Counters



YARDAGE COUNTER

Can be furnished to —
Count Yards & Tenths
Count Yards & Fractions
Can be Furnished with Totalizer
"OVER 500 MILLS
USE W A K COUNTERS"
*T.M. Reg. U.S. Pat. Office

WAK
INDUSTRIES
CHARLOTTE N. C.

Silicone News

DC SILICONES

DC 44 Silicone Grease Ends Bearing Failure in Textile Plant

Bearing failure may burn out your motors, stop your entire production line or ruin a mill run. That's why it's front page industrial news when the Plant Manager of a large textile plant reports that he has not had a single bearing failure since he started to use Dow Corning Silicone Oils and Greases over 30 months ago.

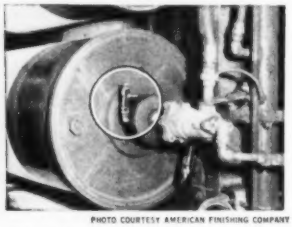


PHOTO COURTESY AMERICAN FINISHING COMPANY

DC 44 Silicone Grease in ball bearings on drying cans, operating at 400 r.p.m. around saturated steam journals, has 45 times the life of the organic grease previously used.

Typical of the lubrication problems that plague plant engineers in textile plants is the maintenance of "steam-heated" bearings. It used to be necessary to lubricate bearings on drying cans and the main cylinder bearings of Sanforizing machines once every 8-hour shift. Since American Finishing started to use DC 44, the re-lubrication schedule has been cut to once every 30 to 45 shifts. The lubrication of Slashers on textile mills presented a similar problem that has been solved by using DC 44.

On tenter frame chains and races that travel through ovens at 400°F., petroleum oils carbonized so rapidly that the chains had to be cleaned periodically. That costly operation and the need for continuous lubrication have been eliminated by a weekly application of DC 710R Silicone Fluid.

American Finishing, like many other skillfully engineered companies, has found that Dow Corning Silicone lubricants more than pay for themselves in reduced maintenance costs. Increased production due to the virtual elimination of bearing failure is another one of the many bonuses Dow Corning Silicones pay to modern industry. For the most recent data on DC Silicone Greases phone our nearest branch office or write for data sheet No. D5CD.

DOW CORNING CORPORATION
MIDLAND, MICHIGAN
Atlanta • Chicago • Cleveland • Dallas
New York • Los Angeles
In Canada: Fiberglas Canada, Ltd., Toronto
In England: Albright and Wilson, Ltd., London

Dow Corning
FIRST IN SILICONES

conditioning installations are simplified, and over-all machine efficiency is increased because each card can be set to operate at the most efficient speed for the particular fiber being handled.

To request further information please use the card on page C of the Reader-Service Department; refer to T-45.

Vision and Efficiency

(Continued from page 99)

ature, perspiration is a handicap. In order to improve these conditions, Fulton has provided at cost a special preparation of glass cleanser for industrial use.

Some glasses wearers, particularly young people, think glasses impair their looks. There are also those who think their eyes will be ruined if they put glasses on.

Because visual skills gradually deteriorate, particularly after the age of 40, all employees should be retested at intervals of not more than two years, preferably at one-year intervals. At the time of retesting, established vision standards should be reviewed to determine if they should be tightened. Because of the low visual level of employees at the beginning of the program, current visual standards are often based on minimum visual requirements. As a result of the program, the visual level may be expected to be higher at the next testing.

RETESTING. Only a comparative few of those Fulton workers who visited a doctor have since been retested to determine to what extent their vision was improved. This retesting phase of the program has, however, recently been started. One of the main benefits of the program involves retests to determine visual correction, and further follow-up with both the patient and the doctor when adequate correction has not been received.

Due to the different distances at which vision is required on some jobs of cloth inspection, it is not believed that normal bifocal glasses will give the proper visual coverage. Therefor, it is recommended that where possible people below the bifocal age be placed on these jobs; and where this is not possible or practical, that occupational prescriptions be used on the job.

In addition to the relations shown by chart on the next page between vision and job performance of workers in Fulton's two cotton mills, the following figures for various departments were revealed:

In the clothroom, of the workers who met the visual standard, 80% were also good workers, and 20% were poor workers. Among those who are below the visual standard, only 38% are good workers, while 62% are poor workers.

In the bag factory, the foreman gave each worker a merit rating. Of those workers rated as good workers, 83% had good vision, 17% had poor vision. Of workers rated as poor performers, 100% had sub-standard vision.

Of cotton-mill workers rated as good by overseers, 100% had above-standard vision. Of workers rated as poor, 82% had poor vision, 18% had good vision.

Bleachery workers also were merit-rated by supervisory workers. Of workers rated as good, 80% had adequate vision; 20% had inadequate vision. Of workers rated as poor, 100% had inadequate vision.

A table of ratings of workers on individual jobs in the bleachery is on page 99.

DYES & CHEMICALS

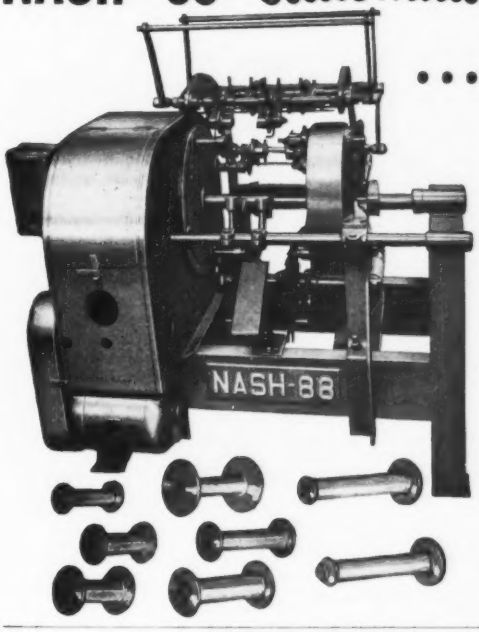
Three New Dyes Announced By General

Three new dyestuffs have been produced by General Dyestuff Corp. One, Diazo Brilliant Scarlet 3GA-CF is a new homogeneous diazo dyestuff for dyeing cotton, rayon, and other vegetable fibers in their various forms. When developed with developers AMS or beta-naphthol, the dye is said to produce fairly bright yellowish shades of scarlet possessing fairly good to good wash fastness on cotton and good wash fastness on rayon. The fastness to light is moderate on cotton and fairly good on rayon. An aftertreatment with urea-formaldehyde resin for anti-crease finishes has no appreciable effect on the light fastness. Melamine-formaldehyde resin only slightly affects the light fastness of the product. As usual with such finishes, the wash fastness is increased distinctly.

Fast Red Salt PDC is the diazotized and stabilized salt of fast red

NASH "88" *Automatic* BOBBIN REFINISHER

...Now a Proven Veteran



Nash Bobbin Refinishers came like an answer to a prayer. There was urgent need for a machine that would keep bobbins in perfect condition and thus assure a better run-off of the rayon yarn. First came the larger No. 37 Bobbin Sander. Its acceptance and success created a demand for the No. 88, designed for mills requiring less capacity. Now, after many months of time-tested performance in the field, the No. 88, has won highest praise from users.

- It handles most types of flanged bobbins.
- Separate burnishing flanges produce a highly-polished surface of uniform quality.
- Abrasive action takes place on barrel portion inside flanges and top radius of flanges.
- It's high speed (10 bobbins per minute) saves labor . . . minimum set-up time is required.
- Quality that means low maintenance cost.

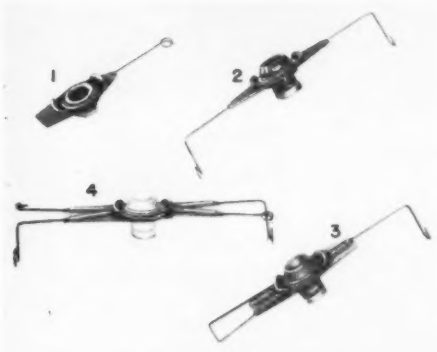
Write for complete descriptive literature

J. M. NASH COMPANY

2364 N. 30TH STREET, MILWAUKEE 10, WISCONSIN

Developing New Yarns?

You'll probably face new twisting problems which we can help you solve



1 — Extra-light-weight bobtail (Red Eccentric)
2 — Two-arm, light, long-aluminum base (Blue Eccentric)
3 — Three-arm base with bale (Green Eccentric)
4 — Four-arm extra-long heavy brass base (White Eccentric)

If, for instance, you plan to twist light-denier nylon for hosiery or other fabrics, the new specially-designed Herr extra-light-weight bobtail flyer will permit you to maintain maximum spindle speed and uniform tension.

The bobtail flyer has only one wire, which is so installed that it is held permanently in its original position. Thus, you can be sure of a perfectly-balanced flyer throughout extended operation. Threading through only one wire reduces greatly the hazard of split filaments.

This is but one of many types of Herr flyers designed for a great variety of twisting conditions. If you have an unusual problem requiring a special flyer, we can design one to fit your particular needs.

All Herr flyers are built with nylon bearings which do not have to be lubricated. The bearings can be had in different colors — a feature useful for identifying lots and counts of yarns, for keeping flyers separated by types and sizes, and for maintaining wire-changing schedules.

We shall be glad to make a survey of your flyer requirements at any time. Why not have one of our representatives come in soon.

HERR MANUFACTURING CO., INC.

318-320 FRANKLIN STREET, BUFFALO 2, N. Y.

ACETATE YARNS Dyed From CHEESES or TUBES

The new cheese or tube put up on acetate yarn is an excellent supply for package dyeing and gives you the lowest yarn cost.

★

Atlantic Rayon CORPORATION

Dyers and Converters of Synthetic Yarns for All Industries

Plant at Providence 1, R. I.

BRANCH OFFICES:
Empire State Bldg., 5th Ave.
New York 1

3701 North Broad St
Philadelphia 40

★

PDC base. The compound is soluble in water and couples directly with naphtholates to form insoluble naphthol colors. The use of fast color salts in naphthol application is said to relieve the dyer and printer of the necessity of diazotizing the bases and greatly to simplify the preparation of developing liquors and print pastes. Fast Red Salt PDC yields bright reds with most naphthols. However, on grounds prepared with naphthol AS-G Supra, a bright greenish yellow is obtained. Combinations with napthol AS-LB or AS-DB yield brown shades and with AS-SG wine shades.

Para Orange RRA-CF is a new homogeneous Para color which produces fairly bright reddish shades of orange on cotton and rayon when coupled with Nitrazol CF Conc. The dye possesses fairly good fastness to washing on both cotton and rayon. The light fastness is only poor to moderate on cotton, but is fairly good on rayon. An aftertreatment with anticrease resin finishes improves the light fastness of the product slightly and increases its fastness to washing.

Para Orange RRA-CF possesses very good affinity at the boil and good affinity at 150° F. It exhausts at a rapid rate at the boil, at a moderately rapid rate at the lower temperature, and responds slowly to additions of salt.

For further information use the card on page C of the Reader-Service Department; refer to D-5.

DuPont Announces Four New Dyes

Four new dyestuffs have been announced by the Organic Chemicals Dept., Dyestuffs Div., E. I. du Pont de Nemours & Co, Inc.

1. Chromacyl Yellow GR is a special acid dyestuff recommended by Du Pont for a range of fast-to-light reddish-yellows which have very good resistance to hot-moist pressing, dry cleaning, salt-water spotting; and good fastness to washing, fulling, and perspiration. It is said to be especially useful for dyeing woolens and worsteds for women's wear and for bathing suit, sweater, carpet, and knitting yarns ,as well as other articles that are designed for long service.

Chromacyl Yellow GR can be applied by the usual methods in conventional dyeing machines and is a very level dyeing color, showing excellent transfer at the boil. The dye has good penetrating and exhausting properties.

2. Pontamine Fast Brown 8RL is a fast-to-light direct color for producing shades of bright reddish-brown on both cotton and viscose rayon. The dye has good fastness to dry cleaning and dry crocking and possesses fairly good resistance to perspiration, hot moist pressing, and moist crocking. Because of its very good light-fastness, it is especially useful for the production of the deeper brown shades on drapery, curtain, and similar materials and is recommended as a reddening element for taupe shades on automotive upholstery fabrics.

Pontamine Fast Brown 8RL is readily soluble, penetrates, and levels well. It can be applied in the customary types of dyeing equipment. In multi-fiber work, Pontamine Fast Brown 8RL dyes rayon, silk, and wool, stains nylon considerably, and noticeably stains acetate. It is also suitable as a shading color for cotton in cotton-wool unions. Crush-proofing treatments applied to dyed cotton make the shade noticeably redder and weaker and result in a decrease in light fastness. When these treatments are applied to rayon, the shade becomes considerably redder and weaker, and the light fastness is also lowered.

3. Shades ranging from pastels to royal blues and possessing excellent light fastness can be obtained with Ponsol Blue BF ND double powder. This anthra-quinone vat dye also has good resistance to washing, crocking, peroxide bleaching, and water spotting. It has satisfactory fastness to chlorine. It maintains its redness of shade even in deep tones and is recommended for application to shirtings, towelings, dress goods, and sportswear.

4. Ponsol Olive T paste is an anthraquinone vat dye for cotton and viscose rayon. It produces neutral olive shades with excellent fastness to light and is recommended especially for military fabrics, industrial uniforms, work clothing, and other materials that may encounter severe treatment during wear and washing.

For further information use the card on page C in the Reader-Service Department; refer to D-6.

Fugitive Tint Will Not Mix With Water

A new fugitive oil tint, Buco, for rayon, acetate, cotton, and wool has been developed by Blackman-Uhler Co. Special shades are also available for nylon. The tint can be diluted with any type solvent or mineral oil, but will not mix with water. The medium-viscosity tint is said to be especially useful in cake soaking as the tint's penetrating qualities will carry it to all parts of the cake.

For further information use the card on page C in the Reader-Service Department; refer to D-7.

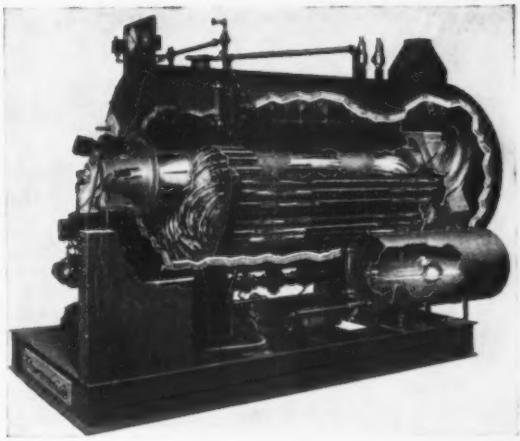
The new O & S *Powermaster* is designed to lower your STEAM costs

. . . *And it does,* as reports from hundreds of satisfied users indicate! Here are some typical cost-savings reported:

"Reducing fuel costs about 30%*"*—say many plant owners. One reason for that is the Powermaster's 3-pass design which produces high quality steam at maximum efficiency.

"No trouble at all—and saves hours of labor daily"—other users state. This modern unit's fully automatic operation results in considerable time savings, and maintenance is simplified because all parts are quickly and easily accessible.

"Costs very little to install"—report many pleased customers. That is because the Powermaster is delivered in one "package", with boiler, burner, controls and feed water system built into a complete steam plant, carefully tested at the factory.

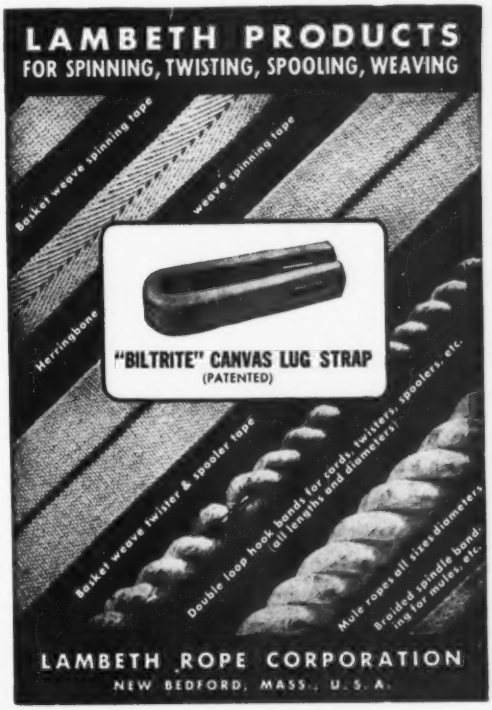


ORR & SEMBOWER *Powermaster*® STEAM GENERATORS

You can choose a Powermaster to burn light oil, heavy oil or gas—or any combination of these fuels with change-over in a few minutes. Get new catalog describing sizes from 15 H. P. up, by writing to:

ORR & SEMBOWER, Inc., 970 Morgantown Rd., Reading, Pa.

LAMBETH PRODUCTS
FOR SPINNING, TWISTING, SPOOLING, WEAVING


Basket weave spinning tape
weave spinning tape
Herringbone
"BILTRITE" CANVAS LUG STRAP
(PATENTED)
Basket weave twister & spooler tape
Double loop hook bands for cards, twisters, spoolers, etc. (all lengths and diameters)
Mule roses all sizes diameters
Braided spindle band ing for mules, etc.

LAMBETH ROPE CORPORATION
NEW BEDFORD, MASS., U. S. A.

PENICK & FORD, LTD., INCORPORATED
CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS
NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA
SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.

John: Let's order two Douglas Spunray Gum for warp sizing spun rayons, spun acetates and mixtures. Understand protects yarns like standard starches yet desizes completely in soap and water. Jim

LAGS—CYLINDERS
COMBS—HACKLES

Large stock on hand furnished to your requirements!

Crabb Pins and Lags are better and stronger today than ever. They're produced by micromax heat-treating equipment to assure you any degree of hardness, with complete uniformity. New polishing methods give an extra high polish to the pins.

Our Cylinders, Combs, and Hackles will meet requirements in every way.

Large quantities of these Crabb products are always on hand, orders quickly filled.

Let us help you solve your problems with these products. We invite you to consult our technical staff without delay . . . no obligation for consulting. Write today.

William Crabb & Co.
301 Third Ave.
Newark, N. J.

Book Reviews

Knitting Handbook For Fancy Fabrics

PATTERN WHEEL DESIGNING FOR CIRCULAR JERSEY KNITTING MACHINES, by Abraham Abrams and Lester Mishcon; Supreme Knitting Machine Co., Inc., Brooklyn, N. Y.; cloth, 165 pages, $3.50. Practical knitting manuals are not too readily obtained; this one will serve to give the knitter authentic, complete, and up-to-date information on pattern designing. Fundamental theory for the beginner and practical operating procedure for the experienced hand are both included. Parts of this book have served as text for recent feature articles in TEXTILE WORLD on pattern-wheel adaptability.

After an introduction on circular knitting and a listing of common knitting terms, the authors take up the mechanics of the knitting art, offering along with the text excellently labeled drawings and half-tones of various mechanical elements. Knit-, tuck-, welt-, and cast-off positions are explained graphically. The use of these positions is shown in solid and striped jerseys, knit-and-tuck fabrics, two-color knit-and-welt cloth, and lay-in cloth for both coating fabrics and undergarments. The mechanics of looping, plating, and lace cloth are explained and illustrated.

The authors next take up the theory of pattern-wheel knitting. Examples are given of calculating pattern area widths on a pattern wheel, then of the laying out of pattern areas on graph paper for designing purposes. Rules for modifying pattern areas are given for the convenience of the knitter.

The drafting of patterns and their conversion to wheel readings for use in filling the pattern wheels are explained, both in two-position patterns and three-position patterns. Needle position, pattern symbols, and types of jack in slot are explained. Graphs are shown of pattern figures transferred to positive wheels, and of methods of marking positive and negative wheels and tie-in intervals.

The final chapters of the manual are devoted to the actual mounting of the filled-with-jacks pattern wheels onto the machine itself, and to analysis of various types of cloth for duplication purposes. "Pattern Wheel Designing," in short, covers its field completely in easy language. It should prove invaluable to all pattern-wheel knitters.

Other Books of Interest

BIBLIOGRAPHY OF REPORTS ON TEXTILE MACHINERY, compiled by Rosalie B. Jaseph under the direction of Henry H. Douglas; Office of Technical Services, Dept. of Commerce, Washington 25, D. C.; 21 pages, no charge. The first compilation (Jan., 1949) on textile machinery reports and abstracts that has been put out by OTS. Bibliography arranged under headings of Carding Machinery, Knitting Machinery, Spinning Machinery, and General Textile Machines. Reports listed by number, author, title, date, paging, and prices. It is a basic source for reports on German equipment and technology.

FUNDAMENTALS OF LIGHT AND LIGHTING, by Walter Sturrock and K. A. Staley; General Electric Co., Nela Park, Cleveland 12, Ohio; 86 pages, $1. This bulletin covers basic reference material on which the science of lighting has been developed. It describes the nature of light and how we see, the physics of light and its measurement, methods of control, characteristics of materials used in lighting equipment, and the principles of illumination design.

FIBRE SCIENCE, series of lectures given at the College of Technology, Manchester, England, edited by J. M. Preston; The Textile Institute, 16, St. Mary's Parsonage, Manchester 3, England; 16 papers, 30 shillings. This book is a compilation on the constitution, structure, and behavior of fibers. Cellulose, amplose, alginic acid, pectic acid, protein, and synthetic fibers are among those discussed by structure and in relation to dyeing and finishing.

MICROBIOLOGICAL DETERIORATION OF ORGANIC MATERIALS: ITS PREVENTION AND METHODS OF TEST; Supt. of Documents, U. S. Govt. Printing Office, Washington 25, D. C.; 39 pages, 18 illustrations, 25¢ (35¢ foreign). This is a summary of information available on deterioration of textiles, leather, and other organic materials because of mildew and rot. It contains a classification of fungicides according to effectiveness for diverse use and includes test methods for evaluation of mildew resistance and rot resistance.

CALCO *dyelines* No. 9 of a series

PUBLISHED BY AMERICAN Cyanamid COMPANY CALCO CHEMICAL DIVISION
Bound Brook, New Jersey
New York • Chicago • Boston • Philadelphia • Charlotte • Providence

WORK CLOTHING ACQUIRES ATTRACTIVE COLORS

It is estimated that over twenty-five million men use work clothing, and almost fifty percent of the nation's working population — farmers, production workers, miners, mechanics, etc.—require special clothing for their daily occupations. Sales of work clothing totaled more than $390,000,000 last year, almost a third of the entire men's and boys' clothing industry.

Once it was considered standard practice to dye cotton work clothing with Indigo. More recently, large

quantities are being dyed with various other vat dyes and with sulfur dyes, permitting a variety of shades rather than just the monotonous blue.

Large yardages of work clothing are still manufactured from overall denims woven from warp yarns dyed with Indigo and from filling yarns which are white, or Indigo-dyed, or tinted with vat dyes. Other considerable quantities are dyed with sulfur black, the cotton being stock-dyed with sulfur black and spun into yarn. This black-dyed yarn, along with white yarn in various combinations, is then woven into sturdy fabrics such as covert cloth. Work pants are also sometimes made from moleskin printed with a small white resist pattern and dyed with aniline black.

All of these operations date back many years, while vat-dyed work clothing in more attractive colors is comparatively new. Work pants, matched shirt and pants sets, and one-piece uniforms are now available in various colors. To meet fastness requirements, only the best vat dyes can be used, and they must be applied skillfully. They must withstand sunlight, vigorous power-laundering, dry cleaning, perspiration and repeated abrasive wear by persons in active physical labor.

Dyehouse costs can be kept low, and uniformity of shade can be maintained at a high standard by continuous processes which, using highly perfected and accurately standardized vat dyes, deliver 50,000 or more yards of dyed cloth per machine per eight-hour day. Typical work clothing shades such as tan, khaki, gray, postman blue, sage green, navy, black, can be produced with combinations of the following Calco dyes:—

Calcosol* Black DDB
Calcosol Navy Blue
Calcosol Dark Blue BO
Calcosol Brown R
Calcosol Brown BR
Calcosol Brown G
Calcosol Copper Brown
Calcosol Khaki G
Calcosol Olive Green BN
Calcosol Jade Green N
Calcosol Golden Orange GD
Calcosol Golden Orange RRTD
Calcosol Flaming Orange 2R
Calcosol Red BN
Calcosol Violet BN Extra
Calcosol Violet 4RP Extra
Calcosol Yellow G
Calcosol Fast Yellow
Calcoloid* Direct Black JD
Calcoloid Gray 2G
Calcoloid Blue BLD
Calcoloid Yellow GCD

For pigment padding of any of these recommended dyes, the Calcosol* or Calcoloid* pastes or the Calcoloid powders can be used. *TRADEMARK

FOR THE TEXTILE BOOKSHELF

Calco Technical Bulletin No. 807—*"Dyeing Studies at Elevated Temperatures"* by G. L. Royer and C. L. Zimmerman, Calco Research Department, and H. J. Walter and R. D. Robinson, Bachmann Uxbridge Worsted Corporation, Uxbridge, Mass.

The Research Department of the American Cyanamid Company, Calco Chemical Division, began in 1941, a cooperative investigation with the Bachmann Uxbridge Worsted Corporation on a fundamental study of the dyeing of wool and wool-cotton unions at high temperatures under pressure. This was based on the concept of continuous dyeing at high temperatures under pressure by H. J. Walter, President of Bachmann Uxbridge. The bulletin reports methods developed for dyeing textile fibers at temperatures in the range of 200° F. to 300° F.

22 million gallons of water circulate through Calco every 24 hours.

TEXTILE BANKING COMPANY

Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

News of the month

Protein Fibers Tested. Man-made protein fibers need protection against micro-organisms that thrive in damp, hot, and poorly ventilated places, according to a report by U. S. Dept. of Agriculture bacteriologist Dr. Margaret T. Goldsmith given before a recent meeting of the Society of American Bacteriologists in Cincinnati. In her tests Dr. Goldsmith exposed fibers from peanuts, soybeans, corn, and milk to micro-organisms that had caused deterioration of wool uniforms stored in the tropics. Soybean fibers *resisted the bacteriological attacks best, with wool itself coming a close second.*

Synthetic Fiber Requirements. In the search for new synthetic-fiber-forming materials, research chemists must keep at least three factors in mind: (1) the need for molecules which are many times longer than they are broad, (2) the need for molecular chains that are long enough to be linked up easily into fiber form, and (3) the need for molecules of such a type that they do not readily connect across the chains and form three-dimensional structures. The extent of studies on fiber requirements was the subject of a talk given recently before the Fourth National Textile Seminar at Shawnee-on-Delaware, Pa., by G. Preston Hoff of E. I. du Pont de Nemours & Co., Inc., technical division.

Loom Vibration Reduced. An electrical set-up has been developed to de-synchronize lay movements of groups of looms causing weave-room vibration, it was disclosed in a paper by F. D. Snyder, Westinghouse Electric Corp., at a recent meeting of the Textile Sub-Committee of the A.I.E.E. in Boston. De-synchronization is attained by operating pairs of looms, back to back, at the same speed. By fixing permanently the two crank shafts in positions at 180°, out of synchronism with each other, the two lays travel in opposite directions at the same time and reverse their direction at the same moment, each counteracting the accumulated force of the other.

Textile Calendar

Beltwide Cotton Mechanization Conference, Bennettsville, S. C., Aug. 17 to 19, 1949.

Scottish Industries Exhibition, Kelvin Hall, Glasgow, Scotland, Sept. 1 to 17, 1949.

AATCC, Philadelphia Sect., Kugler's, Philadelphia, Pa., Sept. 16, 1949.

NACM, 95th annual meeting, Marshall House, York Harbor, Maine, Sept. 22 and 23, 1949.

Textile Machinery Exhibition, Manchester, England, Oct. 12 to 22, 1949.

American Association of Textile Chemists & Colorists, annual meeting, Chalfonte-Haddon Hall, Atlantic City, N. J., Oct. 13 to 15, 1949.

Cotton-Textile Institute, annual meeting, New York, Nov. 3, 1949.

AATCC, Piedmont Sect., Charlotte Hotel, Charlotte, N. C., Nov. 5, 1949.

AATCC, Philadelphia Sect., Kugler's Philadelphia, Pa., Nov. 11, 1949.

Plant Maintenance Show, Auditorium, Cleveland, Ohio, Jan. 16 to 19, 1950.

National Cotton Council, annual meeting, Hotel Peabody, Memphis, Tenn., Jan. 23 to 25, 1950.

Southwest Air Conditioning Exposition, State Fair Park, Dallas, Texas, Jan. 23 to 27, 1950.

Underwear Institute and National Knitted Outerwear Association, joint underwear and outerwear suppliers' exhibition, New York, spring of 1950.

ACMA, annual convention, Biltmore Hotel, Palm Beach, Fla., March 30 to April 1, 1950.

Carpet Institute, Carpet Fashion Opening, New York, April 17 to 27, 1950.

American Textile Machinery Exhibition (and Allied Industries) sponsored by National Association of Textile Machinery Manufacturers, Atlantic City Auditorium, Atlantic City, N. J., May 8 to 12, 1950.

National Materials Handling Exposition, International Amphitheatre, Chicago, Ill., June 12 to 16, 1950.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 2 to 7, 1950.

American Association of Textile Chemists & Colorists, annual meeting, Hotel Statler, Boston, Mass., Oct 19 to 21, 1950.

Wages Soar. Wages paid to production workers in cotton broad-woven goods went up from $230,000,000 in 1939 to $700,000,000 in 1947, according to preliminary findings from the 1947 Census of Manufactures released by the Census Bureau of the Dept. of Commerce. Accordingly, the average annual wage paid in 1947 was $2,045, compared to $720 in 1939. Employment averaged 342,360 in the industry in 1947, compared to 318,892 in 1939. Products shipped in 1947 were valued at $3,295,000,000, an increase of 269% over 1939.

Gift for L.T.I. Library. A $25,000 gift from the Edgar and Emily Hesslein Fund, Inc., of New York, has

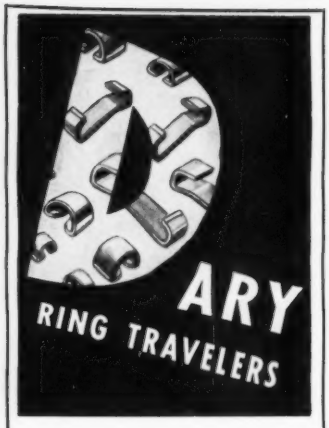
ABOUT IMPROVING TEXTILE MACHINERY?

LET HARRIS MAKE THEM REALITIES

Almost every mill man eventually gets the idea that he could improve on one or more of his machines *if he had the time and the engineering and machine shop facilities.*

That's where Harris comes in. We can take your ideas, add our own, if you wish, and put them to a practical test on an inexpensive experimental machine. Thus, you eliminate expensive drawings, tools and dies until you know your ideas will work. And when the proper time comes, we can also *build* your machines.

Any ideas you submit are held in the strictest confidence. Don't lock them up in a drawer. Let Harris make them realities. We've had 25 years of experience doing just that sort of thing.



Educated Travelers

In the toughest spinning and twisting tests throughout the country Dary Travelers prove they are "educated" for their job!

Each Dary Traveler enjoys an exclusive "education" in the famous Dary Process which assures them of a longer more useful life. Get the travelers that stay on the job because they're made to travel farther . . . get Dary Ring Travelers. Welcome your friendly Dary representative next time he calls.

DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS

John E. Humphrie, Box 843, Greenville, S. C.
John H. O'Neill, Box 720, Atlanta, Ga.
James H. Carver, Box 22, Rutherfordton, N. C.
Crawford Rhymer, P. O. Box 2261, Greenville, S. C.

been received by the Lowell Textile Institute Alumni Assn. in its campaign to provide a new library building for the school. The gift represents the cost of the entire first floor of the projected right wing, consisting of reading rooms, foyer, librarian's office, and work room. Construction of the building is already under way.

Strip Less Frequently. Less frequent card stripping, ranging from once every two weeks to every six weeks, has increased production through reduction of stripping time with no great increase in fly, according to representative card men recently at a meeting of the Carders' Guild, National Assn. of Woolen and Worsted Overseers, in Providence, R. I. The consensus was that the reduction in stripping waste more than offset the increase in fly waste, resulting in a net decrease in the amount of waste made. No apparent loss in quality of the web was reported.

New Australian Technique. A new wool-pulling process has been developed in Australia which dissolves the skin of the dead sheep and leaves the wool ready to be collected. Through the action of an enzyme produced by a mold which thrives on moist bran, the smelly process of allowing skin pieces to rot on the floor of the pulleries before final plucking can be eliminated. A Sydney laboratory has started manufacture of the enzyme preparation, and commercial trials of the process are underway in several Australian pulleries.

Two Card Cylinders Enough. Actual experiments have proved that for wools over 70s, or for specialty wools of equal fineness, two card cylinders are sufficient to produce roving of good quality, said Gustav Zellnik, consulting editor of TEXTILE WORLD, in a talk before the Carders' Guild in Providence recently. Fine wools do not need as much carding as coarser wools. The fibers merely have to be opened up and laid parallel. Overcarding weakens the roving and results in a weaker yarn, the speaker maintained.

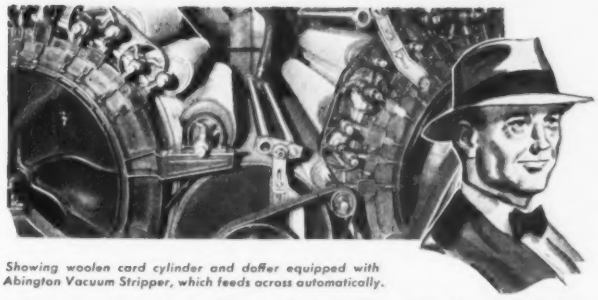
Synthetic Yarn Prices Cut. The first cut to be made on viscose filament yarn in ten years by American Viscose Co. recently dropped a maximum of 10¢ a lb. off the 75-den. and on down to 3¢ a lb. off the 300-den. price. Yarns of 150-den. were reduced 6¢. At the same time, the price of viscose staple has been reduced by 2¢, making the yarn now 35¢ a lb. North American Rayon Corp., E. I. du Pont de Nemours & Co., Inc. American Enka Corp., Celanese Corp. of America, and American Bemberg Corp. have reduced prices accordingly.

Nylon Expansion Plans. New production facilities for nylon staple are being added at the Seaford plant, and new yarn-spinning and processing equipment is being installed in the year-old Chattanooga plant, it was made known recently by R. A. Ramsdell, manager of the Du Pont nylon division. The expansion program is expected to create more than 1,000 new jobs in the next two or three years. In its longer-range program, the company has acquired a site at Victoria, Texas, for a new plant to make the chemical intermediates of nylon.

Sees Decreased Wool Output. The maximum wool clip of 450,000,000 lb., attained during the early years of the war, will probably never again be reached in the United States, said Harry Devereux, president of the American Wool Council, at an International Wool Publicity and Research Fund meeting in London recently. Production will increase from its present 225,000,000 lb. per year; but because of the increased cost of labor and the decreased availability of land, the wartime poundage would be hard to equal. Maximum production is now between 300,000,000 and 325,000,000 lb.

New Production Aids Developed. Research projects carried out at Clemson College School of Textiles have developed several new testers and improved methods, according to the annual report of J. E. Sirrine Textile Foundation, Inc. They are (1) a new hand tensionmeter, (2) an improved fiber strength tester, (3) a new airflow fineness meter, (4) a new type of loom temple, (5) a new type of loom harness motion, (6) new type jaws for grab test, (7) an improved tension device for twist-tester meter, (8) methods of dyeing nylon and rayon, (9) weaving blends of cotton and rayon, (10) X-ray method of studying small angle scattering in cellulose fibers, and (11) stroboscopic method of timing looms in operation.

Toward Wool Shrinkage Control. Wool exposed to the action of ultrasonic vibrations of a frequency of between three kilocycles per sec. and 3,000 kilocycles per sec, can be rendered substantially unshrinkable, according to U.S. Patent 2,470,453, recently granted to Peter Alexander,



Showing woolen card cylinder and doffer equipped with Abington Vacuum Stripper, which feeds across automatically.

"ABINGTON VACUUM STRIPPING Saves us over 70% of our former cost of stripping cards."

FOR YOUR WOOLEN AND WORSTED CARDS

THE BEST MILLS are using Abington Stripping, in steadily increasing numbers, because of results like the following: Abington Vacuum Stripping saves 60% to 90% of Stripping cost through its automatic features. Such reports as: "Six men replacing 12 on stripping," are common from users.

Down time for stripping is materially reduced. Often the increased production equals an extra set of cards. 45 minutes makes a color change, instead of 1 to 3 hours.

Abington Vacuum Stripping assures thorough removal of embedded dirt and fibre; 100% dust-free; quickly performs extra stripping of cylinders and doffers if desired; helps preserve sharpness and alignment of clothing wires—all of which definitely enhances quality.

Request STRIPPER CATALOG

HIGHLY ADVANTAGEOUS IN BOTH LARGE AND SMALL MILLS. Equally Important Advantages in COTTON MILLS

ABINGTON TEXTILE MCHY. WKS.

19 CONGRESS STREET
BOSTON, MASS., U.S.A.

Vacuum Card Strippers • Yarn Dyeing Systems • Weaver's Knotters

PLANT: ABINGTON, MASS. SOUTHERN OFFICE: JOHNSTON BLDG., CHARLOTTE, N. C.

DANA WARP MILLS

Westbrook, Maine

Cotton yarns, single and ply
Cotton warps, single and ply
Colored yarns and warps
Spun rayon—yarns and warps

The ALDON SPINNING MILLS Corp.

TALCOTTVILLE, CONN.

Spinners of Fine Woolen, Worsted & Specialty Yarns

N. Y. Office 11 West 42nd St. | Chicago C. M. Patterson | Phila. Robt. Lehman, Jr.

WE'VE LEARNED A LOT IN OUR 50 YEARS

50 years of specialized experience in producing tanks and tubs for the textile industry *has taught us some things that will be valuable to you!*

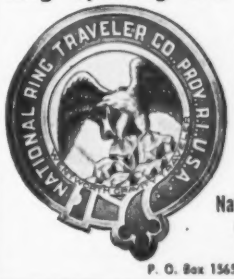
Let us tell you about our complete Caldwell Service, which includes Stainless Steel-lined tanks and tubs—round, rectangular and special shapes.

Catalog on request.

W. E. CALDWELL CO.
INCORPORATED
2060 Brook St. Louisville, Ky.

Caldwell TANKS AND TOWERS

THE OLDEST AND LARGEST
MANUFACTURERS OF
Ring Spinning and Twister Travelers
in the UNITED STATES



American • Hicks • Wilson
United States Standard
Wentworth Double Duty
and Gravity Travelers

MAKES STRONGER YARN

National-Etartnap Finish
New Chemical Treatment

Write Us

National Ring Traveler Company
PHILIP C. WENTWORTH, Treas.
354 Pine St., Pawtucket, R. I.
P. O. Box 1565, Providence, R. I., Charlotte, N. C.

DISCLOSES SECRET . . .

. . . of his buying know-how

Mr. R. W. Parkin, shown above, is only too happy to tell the "secret", of how a regular McGraw-Hill service helps him in his job.

Mr. Parkin is Production Manager with the Limerick Yarn Mills of Manchester, New Hampshire. He is in constant need of specific buying information on all types of textile machinery, equipment, supplies and services.

He solves his buying problems, quickly by using McGRAW-HILL'S PREFILED TEXTILE CATALOGS—A completely indexed collection of manufacturer's catalogs.

Mr. Parkin says: "*We use TEXTILE CATALOGS frequently to check on source of supply for mill supplies and new equipment.*"

This helpful catalog is published by the McGRAW-HILL CATALOG SERVICE, 330 West 42nd Street, New York 18, N. Y.

WANTED

HEAD WEAVING OVERSEER

To supervise weaving operations in an all-rayon weaving mill located in the Virginia-North Carolina area and equipped with approximately 1000 Type XD Draper looms.

Highest references required. Only experienced top-flight men need apply. Must have satisfactorily completed textile engineering college course or equivalent.

Prefer man of southern birth, training and experience. Age 35-45 years.

Make written application supplying in detail educational background, practical experience, ability, salary expected, etc.

Box No. **TB724,**
221 W 41 St, NYC 18, N. Y.

All applications to be held in confidence.

For Editorial Excellence
INDUSTRIAL PAPERS
1949
AWARD OF MERIT TO
Textile World
For outstanding single article published during the period ending December 31, 1948 in the eleventh annual editorial competition
Conducted by
INDUSTRIAL MARKETING

For Editorial Excellence
INDUSTRIAL PAPERS
1949
AWARD OF MERIT TO
Textile World
For outstanding series of articles published during the period ending December 31, 1948 in the eleventh annual editorial competition
Conducted by
INDUSTRIAL MARKETING

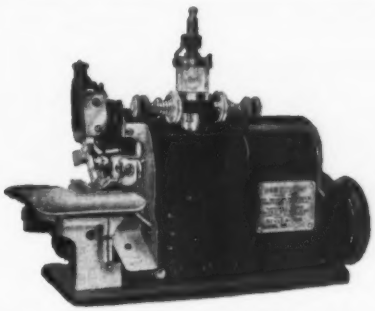
AWARDS OF MERIT to TEXTILE WORLD for editorial excellence among trade papers were received from George J. Callos, executive vice president of Klau Van Pietersom-Dunlap Associates, Milwaukee, Wisconsin, representing Industrial Marketing, sponsors of the 11th Annual Editorial Achievement Competition, at the June National Industrial Advertisers Assn. conference in Buffalo, N. Y. TEXTILE WORLD won its "single article" award with its Cotton Fiber Chart (T. W. Oct., '48), and its "series of articles" award with its series of Flow Charts. Other members of the 17-man judging panel included H. H. Simmons, Crane Co.; N. C. Hurley, Jr., Independent Pneumatic Tool Co.; Volney D. Fowler, General Motors Corp.; H. T. Scribner, Russell T. Gray, Inc.; Walther Buchen, The Buchen Co.; Taylor Poore, Tempo; G. R. Stege, Jr., Lever Bros Co.; H. R. Bloomquist, Gillette Safety Razor Co.; J. H. Platt, Kraft Foods Co.; L. B. Sizer, Marshall Field & Co.; L. O. Holmberg, Compton Advertising; A. E. Meyerhoff, Arthur Meyerhoff & Co.; Wallace Meyer, Reincke, Meyer & Finn, Inc.; Roger Wilde, Simmons Co; Albert V. Scherer, Ohio Chemical Mfg. Co.; and A. G. Ensrud, J. Walter Thompson Co.

Leicester, England; and assigned to Wolsey, Ltd. No commercial applications have as yet been reported.

Speedy Dyeing Under Pressure. The two hours required for dyeing wool to a certain shade at 212° F. can be cut to one minute by dyeing under pressure at 275° F., said Robert D. Robinson, chemist of Bachmann Uxbridge Worsted Corp., in a recent talk before an AATCC gathering in Andover, Mass. Neutral and union dyeing colors work best on wool with this "pressure cooker" method. Other fibers included in the speedier dyeing tests have included cotton, viscose, acetate, silk, nylon, goat hair, rabbit fur, linen, and Orlon. Nylon required only 75 sec. at 275° F. to obtain the same depth of shade requiring one hour at 212° F.

Sees Improved Cotton Strains. Cotton research scientists "will, if they have not already done so, develop a strain or strains of cotton which will grow uniformly and in such a way that the crop will be harvested economically by machinery; while at the same time the yield and quality of the crop will be increased," said Dr. Fred Bonnet, assistant to the president of American Viscose Corp., in a recent talk on textile research at North Carolina State College. He maintained that this research should bring down the cost of cotton and make possible many developments with the fiber that would not otherwise be feasible.

Chinese Textile Industry. The new régime in China is facing a 1,000,000-bale deficit of raw cotton annually, according to calculations by Chinese traders. To keep the country's 4,200,000 spindles running, 2,300,000 bales of raw cotton are needed each year. Domestic cotton crop is estimated at 2,500,000 bales a year. Home spinning and weaving absorb 60% of the crop, leaving only 1,000,000 bales for the mills. The increase in deliverability of local cotton and the expected increase in growing resulting from easier marketing conditions should make up for some of the loss of American relief cotton. But there will still be a mill deficit of 1,000,000 bales. India will fill part, but not all, of the increased Chinese demand. China will have to close down on its mill capacity, promote the increased growing of cotton in China, or make a deal with the U.S. government on continuing raw cotton imports.



Merrow Class A Machines, illustrated, have made possible quality production, high-speed and low operating costs to a degree greater than ever before. They are easy to handle, simple to adjust, sturdy in design, accurate in workmanship and readily adapted to many kinds of work. Let us or our distributor nearest you demonstrate the work of these machines on samples of your own fabric.

MERROW HIGH SPEED

OVEREDGING, OVERSEAMING AND HEMMING MACHINES

For Use on Knitted and Woven Wear of all Kinds

Quality Results—High Production

Convenient Handling

Minimum Time-Out for Adjustment

or Repair—Low Upkeep Costs

Obtain Maximum Quality Production by Using a Machine Suitably Arranged for Your Work—Our Distributors or Our Direct Representatives Are on Call to Advise You on Suitable Machine Arrangements for Various Results and Proper Care and Operation of Machine.

ESTABLISHED 1838 INCORPORATED 1894

THE MERROW MACHINE COMPANY

STARTING ITS SECOND CENTURY

2803 LAUREL STREET HARTFORD 6, CONN., U. S. A.

Acme Products

for seamless hosiery knitting

Speak for Themselves

Up-To-Date Machines

Needles

Economy Makers

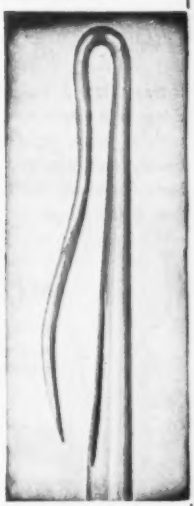
ACME KNITTING MACHINE & NEEDLE CO.

FRANKLIN, N. H.

CHARLES COOPER CO., INC.

Bennington, Vermont
Manufacturers of
Quality LATCH and SPRING-BEARD

NEEDLES



also
Manufacturers of THE FAMOUS COOPER CIRCULAR SPRING-NEEDLE RIB KNITTING MACHINES

NEW DAMP-TEX ENAMELS REVOLUTIONIZE INDUSTRIAL PAINTING

DAMP-TEX Regular has no flavor-tainting odor. White is now whiter. It is safe to use around foods. Dries in a few hours. Resists normal alcohol, acid and alkali conditions.

DAMP-TEX No. 2 dries in 30 minutes. Resists extreme acid, alkali and alcohol conditions.

DAMP-TEX IS MORE THAN A PAINT

It's a complete system to stop deterioration due to Rot, Rust, Fungus and germs.

Both Regular and No. 2 DAMP-TEX offer bactericide, fungicide and rust inhibiting pre-treatments. Go on wet surfaces, as well as dry.

DAMP-TEX is easy to apply, dries to a porcelain-like finish with a high, light-reflecting beauty that washes like glass. Lasts for years. Used by more than 8,425 plants.

NO RISK TRIAL OFFER

Just write across your letterhead, the word DAMP-TEX and mail to us. We'll send you details of our no-risk trial offer. Warehouse stocks near you.

STEELCOTE DAMP-TEX ENAMELS No. 1 and No. 2

STEELCOTE MFG. CO. • ST. LOUIS 3, MO.

IN CANADA: STANDARD PAINT & VARNISH CO., LTD., WINDSOR, ONT.

NEWS ABOUT Suppliers

Equipment Suppliers

Automatic Transportation Co. has named Philip E. Whiting as Eastern district manager at the branch sales office and parts and service depot in New York. The company has appointed Equipment Engineering Co., Memphis, Tenn., as distributor for its electric industrial trucks and motorized hand trucks.

General Electric has appointed James H. Goss manager of engineering in the control divisions of the company. Two district sales appointments were made in the lamp department: George V. Ellis, with headquarters in Memphis, Tenn.; and Robert V. Corning, with offices in Cincinnati, Ohio.

Hayes Industries, Inc., has developed precision-machined aluminum loom-beam replacement barrels with a maximum run-out of 0.010 in. For even greater weight savings, in place of straight-through shafts, the barrels are fitted with stub shafts mounted in shrunk-fit aluminum inserts in the ends of the barrel. No excessive wear nor weakening has shown up in a fatigue test equivalent to 20 years' actual use, the company has said.

Hyatt Bearings Division of General Motors Corp. has appointed two assistant purchasing agents: George A. Burgermaster and C. Russell Todd. They replace William E. Jones, retired, and Leo V. Farrell, new general purchasing agent. Frank A. Weiss, former purchasing agent, is now assistant to the general manager.

Lake Shore Engineering Co. has formed a conveyor division to manufacture and sell lightweight, power-driven portable belt conveyors for handling bulk and packaged materials. These machines were formerly manufactured by Material Movements Industries, Inc., a firm now being dissolved.

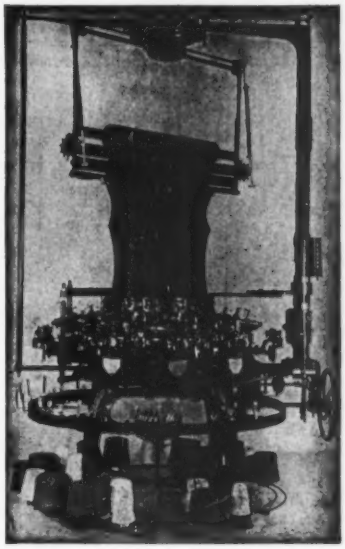
Karl Lieberknecht, Inc., offers its 16-mm film on the knitting of hosiery to manufacturers and buyers who want to use it in their staff and sales meetings. The film, showing a 32-section auto-welt full-fashioned machine in action, was run at the Knitting Arts Exhibition in April.

BENJAMIN R. EBERSMAN was recently elected vice president in charge of sales at Hemphill Co. He is now directing the world-wide sales organization for the company that is said to be the oldest manufacturer of exclusively circular-knitting hosiery machinery. Formerly general manager of Supreme Knitting Machine Co., he made a tour of the European hosiery field before assuming his position with Hemphill Co.

Link Belt Co. has appointed Allan Craig to be general manager of the southwestern division, with headquarters at Houston, Texas. To succeed Mr. Craig in Atlanta, Ga., Michael J. Perry, district manager at Moline, Ill., has been named. Andrew K. Kolar, district sales engineer at Moline since 1947, is now district manager there, in full charge. John D. Riley is the new district manager at the Newark, N. J., office.

Meese, Inc., has established a district sales office in Chicago to handle distribution of its canvas baskets and insulated shipping containers. John A. Wurtz is in charge, and will endeavor to develop more closely the applications of canvas products in the textile industry.

Saco-Lowell Shops have made some organizational changes. M. B. Black, former works manager, is now factory



Trouble-Free Knitting
High Production
by TOMPKINS

The Tompkins Model S-1 is the finest in high speed spring needle knitting machines. Set up at factory for any class of work desired. Feeds and gages may be quickly changed to produce a wide range of cloth —from rugged overcoat material to fine underwear fabric. Furnishing wheels, visual-signal electric stop motion and cylinder lighting insure perfect cloth in large volume. Interchangeable cylinders—16" to 35" and gages from 5 to 50 provide maximum flexibility.

Established 1846

Over a century of continuous service to the knitting industry throughout the world

TOMPKINS BROS. CO.

ONEIDA ST. INCORPORATED SYRACUSE, N. Y.

THE LOYAL T. **IVES** COMPANY EST. 1874

SPRING BEARD KNITTING NEEDLES

For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines; Slides, Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

Sheet Metal Specialties to Order

NEW BRUNSWICK NEW JERSEY

When You Change Your Address . .

It will help us keep your copies of TEXTILE WORLD coming to you each month if you will promptly advise us of any change of address.

Director of Circulation
TEXTILE WORLD,
330 West 42nd St., New York 18, N. Y.

Please change the address of my Textile World subscription.

Name .....

Old Address .....

New Address .....

New Company Connection .....

New Title or Position .....

Machine and Hand Knitting

Yarns

[French-Bradford]

for

BATHING SUITS
OUTERWEAR
HOSIERY
UNDERWEAR

★

Complete color assortments

American Woolen Company

225 Fourth Avenue New York

Whitman Yarns

MONOMAC
French Spun
Yarns

Arlington
Bradford Spun
Yarns

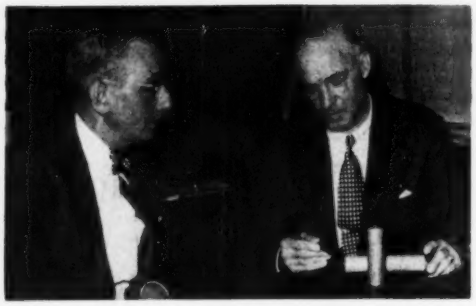
SPUN FIBERS, INC.
Lenoir, N. C.
Worsted Yarn on the
American System

NONQUITT
Spun Rayon Blends
Specialty Yarns

WILLIAM Whitman COMPANY, INC.
261 Fifth Avenue, New York 16, N. Y.

BOSTON 78 Chauncy Street
CHARLOTTE Commercial Bank Building
PHILADELPHIA 1420 Walnut Street
CHICAGO 222 West Adams Street

NEWS ABOUT *Suppliers* (Continued)



R. P. (REX) BENNETT, head of the newly-formed bobbin division of The Formica Co., points out an intricacy of bobbin manufacture to J. Roger White, vice president and sales manager of the firm. Mr. Bennett, a veteran of 25 years in the industry, will further the development of plastic bobbins to meet synthetic yarn requirements.

service manager and assistant to the vice president in charge of manufacturing. Sven Vaule, consultant for Saco-Lowell since 1946, succeeds him as factory service manager. Warren Walker and Floyd Westmoreland are now assistant factory service managers.

Textile Machine Makers Ltd., holding company for the largest group of British textile machine builders, quadrupled its net profits in 1948, compared to 1947. In 1948 it showed £995,646 in consolidated net profit after an allowance of £281,282 for depreciation and £945,553 for taxation. In 1947 it showed £221,077 in consolidated net profit, allowed £194,238 for depreciation, and paid £323,927 in taxes. The parent company net profit for the year 1948 was £480,703, compared with £266,743 in 1947. Exports last year averaged 37% more than in 1947. In an advertisement recently, Platt Bros. (Sales) Ltd., selling company for the group's products, reported marked reduction in delivery dates, and made the assertion that they can supply a complete new cotton spinning mill in ten months.

The Edward Parkinson Mfg. Co., Inc., has moved its offices and manufacturing plant to a new location at Maple and Oak Streets, Esmond, R. I. Increased production facilities are available in the new headquarters.

Whitin Corp. has appointed two new distributors in the East: George E. Miller Co. in Boston, and Grays Metal Works, Inc., in Philadelphia. They will handle the firm's overhead crane and monorail system distribution.

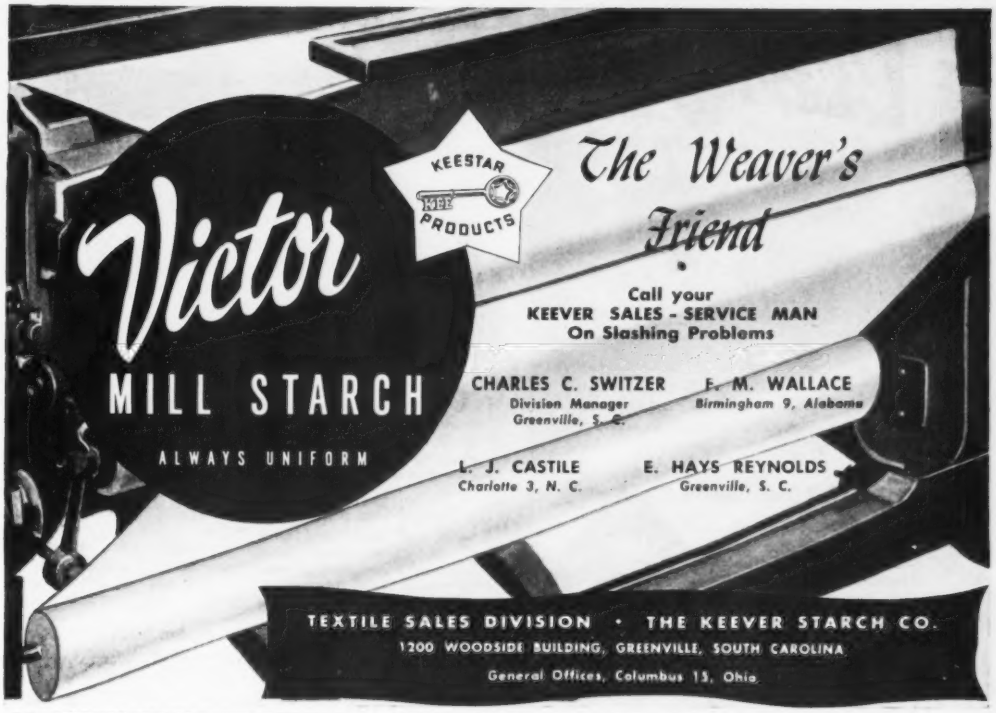
Worthington Pump and Machinery Corp. has elected Robert E. Marshall secretary of the corporation, succeeding the late C. Neal Barney. With the corporation since 1947, he steps up from his post of assistant secretary.

Yale & Towne Mfg. Co. has developed a hoisting sling which handles awkward rolls without the risk of their sliding out or swinging dangerously as they are transported. Two sections of wide belting are secured at each end to specially formed sections of bar stock. The Yale hoist is a five-ton variable speed motor-driven trolley type, mounted perpendicular to the I-beam on which it travels. The operator controls lifting, lowering, and transverse motion by push-button control.

Chemical Suppliers

American Cyanamid Co. has appointed Dr. James R. Dudley supervisor of new product development and John D. McPherson supervisor of market research activities.

Joseph Bancroft & Sons Co. recently named Albert C. Woodruff, Jr. its New York merchandising manager of textile finishes development department. He joined Bancroft in 1934 and is vice president of Banco, Inc.

Canadian Aniline & Extract Co., Ltd., is building a new plant in Hamilton, Ontario. Its

BUY U.S. SECURITY BONDS NOW!

ROME SOAP MFG. CO.

MANUFACTURERS OF
Textile, Laundry
and
Special Soaps
ROME, N. Y.

WRITE US FOR
SAMPLES AND
QUOTATIONS

TENTERING
and DRYING
MACHINERY

For further information see
McGraw-Hill Textile Catalogs

D. R. KENYON & SON
RARITAN, NEW JERSEY

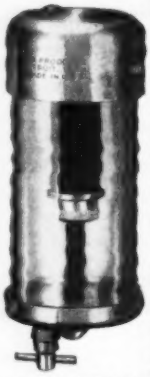
Then you'll want to know *today's* facts about RAILWAY EXPRESS high-quality rail or air service, designed to meet *your* shipping needs—and why this *complete* service for one, *all-inclusive* charge offers the *most value* for your shipping dollar.

Write FOR YOUR COPY of booklet "Complete Service for A Single Charge", please address: Railway Express Agency, Inc., Dept. 40, 230 Park Ave., New York 17, N. Y.

RAILWAY EXPRESS AGENCY

NATION-WIDE RAIL-AIR SERVICE

DO YOU HAVE
WATER, DIRT or SLUDGE IN YOUR AIR-LINES?
This New M-B AUTOMATIC
AIR-LINE FILTER



is equipped with RIBBON TYPE FILTERING ELEMENT . . . Removes solids 10 microns (.00039) and larger. It is *a radical departure from general practice*, bowl being transparent plastic. Consequently all foreign matter filtered from the air-line is clearly visible, eliminating guess work as to when filtering element should be cleaned or bowl drained . . . There is NO WATER, *DIRT OR OIL in compressed air that* has passed through this filter . . . This piece of equipment gives maximum protection to air-operated controls on Slashers and Humidifiers, also Blow-off of the Knotting Device on Barber-Coleman Spoolers, also Abbott Winders and Blow-off hoses in Weaving and Spinning Rooms . . . This new Filter affords our "Amoskeag" Pneumatic ROLL PICKER, Model A.V.T., or similarly operated equipment, maximum protection.

Representatives in All Textile Centers

WRITE FOR LITERATURE

M·B PRODUCTS
130-134 E. Larned St.
DETROIT 26, MICHIGAN

NEWS ABOUT *Suppliers*

capacity will range from ten to 15 tons a day, depending on the materials being run.

Carbide and Carbon Chemicals Corp. is completing its new organic chemical research center located on a 140-acre tract near the Charleston, W. Va., plant. The completed project will house fundamental organic chemical and resin research, as well as process development work for the company.

Clinton Sales Co., representing Clinton Industries, Inc., has opened its first divisional sales office at San Francisco, Cal. It is under the direction of Walter F. Jackson, who will have charge of all brokers and salesmen in the territory.

Copland Converting & Finishing Co. has set up a laboratory service for curtain manufacturers. Fabrics will be tested by request. The laboratory is equipped to analyze fabric, determine construction, gray count and finished count, weight of warp and filling, twist, residual shrinkage after washing, and similar types of information. Temperature control for baths is offered so as to produce identical test conditions.

Dow Chemical Co. has moved its industrial applications laboratory from Ann Arbor to Bay City, Michigan, where it is enjoying new and larger quarters. The new location affords 10,000 sq. ft. of floor space, approximately four times that formerly available, and permits more effective operation and the use of larger scale equipment.

E. I. du Pont de Nemours & Co., Inc. has brought out an improved sizing material for nylon continuous filament yarn. The new material has been modified to eliminate dusting. Its strong affinity for nylon and its water solubility point to its use in other sizing applications, according to the company.

Hilton-Davis Chemical Co., division of Sterling Drug, Inc., has been put in charge of James F. Thompson, recently elected vice president of the parent company. He has been succeeded as divisional vice president by William A. Johnson, former plant superintendent. A brilliant silk dye,

D. W. DRUMMOND is the new vice president of Mathieson Chemical Corp. and director of industrial chemical sales for the company. He is in charge, through his department, of all heavy chemicals, including sulphuric acid.

sometimes called setocyanine and having the color index of 663, is now available for use in this country, the firm says.

Hooker Electrochemical Co. has named William F. George as New York district sales manager. He had been sales supervisor in the New York area since 1942.

Masury-Young Co. has appointed Francis R. Rody as textile chemical engineer. He will work in research and sales promotion coordination. For 13 years he was a chemist with American Woolen Co., five years with Masury-Young as chief textile research chemist, and three years with L. Sonneborn Sons, Inc., as technical representative.

Monsanto Chemical Co. recently appointed W. Kenneth Menke assistant general manager of sales for the Merrimack Division. For the past two years he was assistant director of the company development department.

National Starch Products, Inc., has promoted S. F. (Woody) Thune to sales manager of the Mid-Western division. He joined the firm in 1934, and for the past three years had been sales manager on the Pacific Coast division. Francis R. (Fran) Loetterle has taken over his position in San Francisco.

Pennsylvania Salt Mfg. Co. has named Albert H. Clem assistant manager of sales of the

NEWS ABOUT *Suppliers*

(Continued)

special chemicals division. Philip C. Staples, Jr., is now a heavy-chemicals-division product supervisor, as is George D. Grogan. R. S. Roeller became manager of sales in the heavy chemicals division, while Fred Prince has taken over the chairmanship of the Centennial Committee and will devote his time to preparation for the company's 100th anniversary in 1950.

Philipp Brothers Chemicals, Inc., recently honored Bernard L. Landers, vice president in charge of the Boston, Mass., office, at a dinner and theater party in celebration of his 25 years with the company. Mr. Landers was presented with a large-screen television set and a suitably engraved silver plaque, and was notified of his election to the board of directors of the firm.

Stein, Hall & Co., Inc., has re-named Joseph C. Blauvelt assistant vice president. He will head up company purchases of tapioca flour, sago flour, and similar imported products, as well as manage the procurement of corn and wheat starches from domestic suppliers. Mr. Blauvelt was with Stein, Hall from 1919 to 1943; for the past six years he had been farming.

Watson-Standard Co. has developed two new organosols which simplify the handling of colored organosols in textile coating. Both are clear high-viscosity organosols, one high-loaded and the other low-loaded. Color organosols derived from them show good *hand properties, good light* resistance, and superior durability, the company claims.

Westvaco Chemical Division of Food Machinery & Chemical Corp. plans to build a new Pacific Coast phosphate plant at Newark, Cal., adjoining the magnesium oxide plant now in operation there. The new facilities should be in operation early in 1950.

Wyandotte Chemicals Corp. recently appointed W. L. Rippeteau as manager of development for the company. He joined the firm in 1947 as contact representative for the new organic and inorganic products being produced by Wyandotte.

Zimmerman Associates, chemists and engineers, has been organized by Bernhard G. Zimmerman at Guilford College, N. C. Work has been started on a number of specialties for textiles. Most of the facilities of the organization are to be devoted to the manufacture of permanent soft finishes for textile fibers and cotton warp-sizing compounds.

L. J. "LUKE" CASTILE recently completed his 25th year as a representative of the textile sales division of Keever Starch Co. His entire quarter-century of service with Keever has been in the North Carolina territory.

Other Services

Air Reduction Co., manufacturers of industrial gases and welding equipment, has set up a warehouse point in Tulsa, Oklahoma. It will carry supplies of oxygen and acetylene gas, the company says. A new oxygen plant has been opened in Flint, Michigan.

International Business Machines Corp. has established a service bureau for highly involved technical computations. For example, in dye mixture problems, the bureau computes the manner in which dye mixtures of varying concentrations transmit light rays. Such computations permit color evaluation of various dye mixtures without actual laboratory experiments.

Foster D. Snell, Inc., consulting firm of chemists and engineers, recently elected L. C. Cartwright secretary, Albert F. Guiteras treasurer, and Louis J. Bowlby, Jr., assistant treasurer. The first two are members of several chemical societies. Mr. Bowlby has been with the accounting department since 1947.

Look to . . .

Watson-Standard

FOR THE UNIQUE IN

Textile Coatings

A complete line of plastisols, organosols and solution coatings and finishes of unequalled performance have been developed by the extensive research of The Watson-Standard Company.

For example, to meet present day requirements for inexpensive coatings with quality performance, a series of plastisols have been developed having excellent washability, light fastness, toughness and durability. These finishes have been field proven by the Textile Industry.

We will be glad to help you with your textile coating or finishing problem without obligation. Why not write today.

TOUGH JOB HEADQUARTERS

℞ Prescription Finishes

Give us your coating problem.

We guarantee you an answer based on your conditions, and not just a standardized formula.

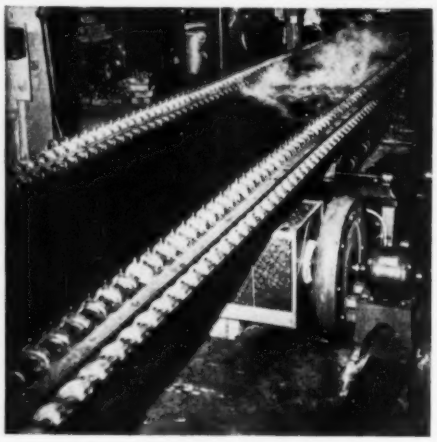
THE WATSON-STANDARD CO.

Manufacturers of

PAINTS • VARNISHES • INDUSTRIAL FINISHES AND LITHOGRAPH COATINGS

FACTORY AND GENERAL OFFICES: PITTSBURGH, PA.

WAREHOUSES: BOSTON, BUFFALO, DETROIT, NEW YORK



RED-RAY BURNERS

under open tenter frame increase drying speed on rayons. Production Raised—Costs Lowered.

WRITE FOR BULLETINS

RED-RAY MANUFACTURING CO., INC.

455 West 45th Street New York 19, N. Y.

For Maintained Shrinkage—
Perfect Finish—Long Life

HUYCK

→COMPRESSIVE SHRINKAGE←

BLANKETS

for use in shrinking fabrics to the *"Sanforized"* standard by the Compressive Shrinkage process, are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the heaviest denim, there is a special Huyck blanket to meet your specific needs.

Huyck blankets retain high shrinkage and finish properties to the last.

PALMER BLANKETS—also available for your special requirements.

Write for information or see our representative

F. C. HUYCK & SONS

KENWOOD MILLS

Rensselaer, N. Y.

NEWS ABOUT Mills

Cotton Mill News

Alabama Mills, Inc., Birmingham, Ala, spent $736,593 for addition to manufacturing facilities and improvements during the past year. Total of 8,146 spinning spindles, 1,200 twister spindles, and 190 looms was added to plants, and many looms were converted from cam type to dobby type.

Bibb Mfg. Co., Macon, Ga., plans new office building at estimated cost of $300,000. Building will be located at company headquarters in Macon and will house its general offices.

California Cotton Mills, San Francisco, Calif., and **National Automotive Fibers, Inc.**, Detroit, Mich., will be merged under name of latter company. Deal will be finally confirmed at meeting of both boards of directors in Oakland on July 12.

Calloway Mills Co., LaGrange, Ga., has added Shirley analyzer to testing department of research division. Machine, developed at Shirley Institute, Manchester, England, provides means for both quantitative and qualitative analyses of cotton fiber. Unity plant of Calloway Mills Co., LaGrange, Ga., has completed new opening room and equipped it with modern machinery. Glenn B. Brookshire is overseer of spinning and carding at plant.

Cone Mills Corp., Pineville plant, Pineville, N. C., is installing approximately 15,000 spindles and 314 looms in additional buildings. Production will be nearly doubled. Estimated cost is $1,500,000.

Dale Mills, Inc., West Warwick, R. I., has been chartered, with incorporators consisting of Jacob J. Alprin, Providence; Perry Bernstein, Hoxsie; Ruth C. Lipson, Pawtucket. Purpose is manufacturing and dealing in cotton fabrics, etc.

Decotah Cotton Mills, Lexington, N. C., has deeded property consisting of utilities for 48 mill-village houses and right-of-way in the village to the City of Lexington.

Dixie Mills, Inc., LaGrange, Ga., is new name of former **Dixie Cotton Mills**. Change in name will mean neither changes in personnel nor plans. Dixie Mills, Inc., remains wholly owned subsidiary of West Point Mfg. Co.

Dundee Mills, Inc., plant No. 3, Griffin, Ga., was damaged by tornado recently. Seventeen houses of mill village were damaged to extent of approximately $25,000. Eastern edge of plant was blown off with some damage to machinery.

Erwin Cotton Mills Co. has been awarded by the Navy Purchasing Office a contract for 240,000 yards of cotton sheeting at 26.94¢ per yd.

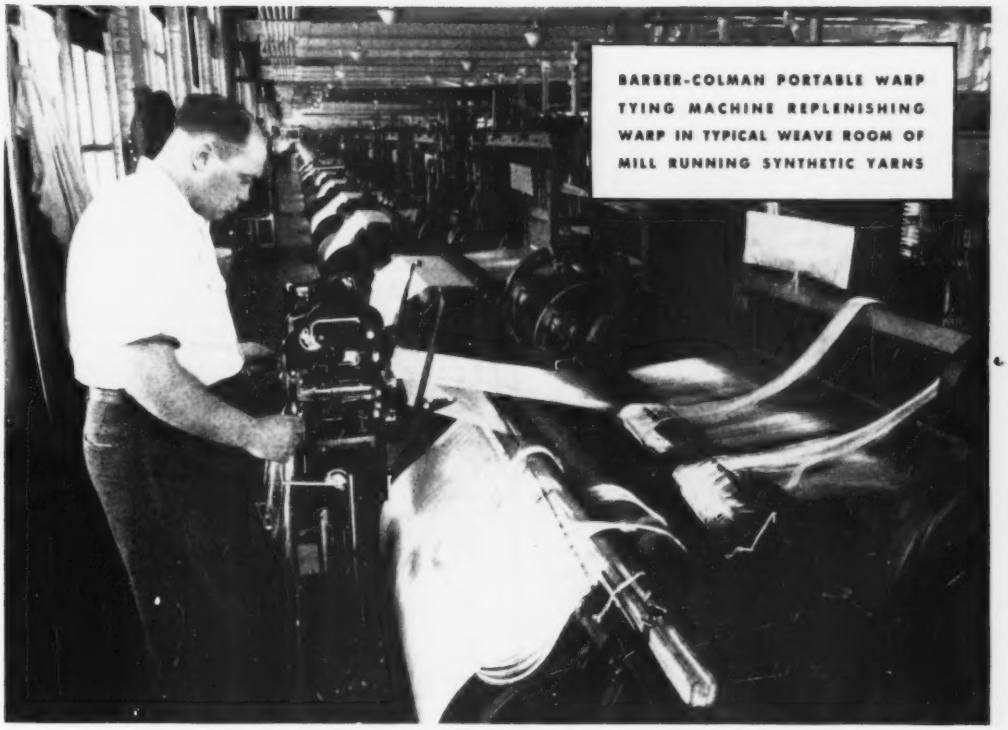
Fullerton Cotton Mills, Inc., Newnan, Ga., which has been making coarse yarn in its 11,000 spindle mill, is switching to finer yarn and will make 30s and 40s.

Charles Lachman Co., Inc., Phoenixville, Pa., has plans nearing completion for steel-frame addition to mill, and contract for erection will be let soon.

The Lamport Co. was awarded a $133,662 contract for 117,450 63x108 torn-length sheets by the Veterans Administration recently. **Springs Cotton Mills** contracted for 85,000 sheets for a total amount of $143,514, and **S. Shafron & Co.** contracted for 59,050 sheets for $59,629.

Lane Cotton Mills Co., New Orleans, La., has installed new card-stripping system as part of modernization and expansion program. Company also is having looms overhauled and replaced where needed; slashers are being modernized, and new beam- and package-dyeing equipment is being installed.

Linen Thread Co., Inc., Blue Mountain, Ala., has work going forward on expansion program, which will add 40,000 sq. ft. of floor space.



BARBER-COLMAN PORTABLE WARP TYING MACHINE REPLENISHING WARP IN TYPICAL WEAVE ROOM OF MILL RUNNING SYNTHETIC YARNS

BARBER-COLMAN PORTABLE WARP TYING MACHINE REDUCES REPLENISHMENT TIME ON NYLON WARPS FROM 16 HOURS TO 3 HOURS

Any mill seeking operating economies as an aid in successful competition should consider the possibilities offered by the Barber-Colman Portable Warp Tying Machine. Data at the right shows the substantial saving that was made in the case of a mill running nylon on beams of 10,800 ends. Nylon is usually more difficult to twist-in than rayon or acetate yarns, because often an individual twist has to be repeated three or four times before it will hold. The Barber-Colman Portable Warp Tying Machine, on the other hand, will tie-in any type of synthetic yarn with equal speed and facility. The Barber-Colman Machine works directly in back of the loom, as shown in the picture above. It has an average capacity, including loading and unloading time, of 3000 to 5000 ends per hour, depending on the type and sley of the yarn. Only one operator is required for the complete replenishment operation. Barber-Colman Portable Warp Tying Machines are made to handle all kinds of yarns — cottons, wools, and synthetics. At the next opportunity, ask your Barber-Colman representative to discuss with you the possibility of savings in your mill.

DATA FROM THE MILL

CROWN WEAVING COMPANY
SCRANTON, PA.

MACHINE METHOD

Barber-Colman "LS" Portable Warp Tying Machine
One Operator (No helper)
Beam — 10,800 ends
40/34/15 TT Nylon
220 sley
Total Tying-in and Loom Down Time — 3 hours

MANUAL METHOD

One Twisting-in Hand
Total Time, including setting up, hand twisting, pulling through, and loom down time — 16 hours

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND

BARNES SERVICE *Consulting Engineers*
TO THE TEXTILE INDUSTRY FOR OVER ⅓ CENTURY
Surveys—Reorganizations—New Plant Developments for Cotton, Wool, and Synthetic Yarn and Cloth Processing, Bleaching, Dyeing, Printing and Finishing.

★ Plant Appraisals ★ Mechanical and Operating Surveys — New Methods ★ Scheduling and Planning ★ Work Load Studies, Job Analysis and Evaluation, with Incentive Plans ★ Standard Cost Installations ★ Cost Control Methods

Labormeter Burden-meter Waste-meter

BARNES TEXTILE ASSOCIATES, Inc.
Member of Association of Consulting Management Engineers, Inc.
10 HIGH STREET, BOSTON 10, MASS.
318 MONTGOMERY BLDG., SPARTANBURG, S. C.
European Agent: Edwin L. Haddon, 121 Rembrandt, Paris 7e

MEMBERS OF THE BARNES STAFF

1. —Have ability to give sound counsel resulting from actual participation in successful operations

2. —Have maturity of judgment based on time and experience "seasoning"

3. —Unfailingly put client's interest ahead of own

4. —Have personal qualities to work harmoniously with others, respect others' viewpoints, keep open mind and work patiently to find correct solutions and not rely on "snap judgment"

5. —Have moral courage to make true report following investigations even though by telling the truth a client may be lost.

PAGE FENCE *Since 1883*
• AMERICA'S FIRST WIRE FENCE •

Thinking about a Fence?

● You know that protection of persons and property is good judgment—and you intend to do something about it. To know *what* to do, write to Page Fence Association for illustrated facts. Note the several styles of Page Chain Link Fence and Gates. Then talk with our nearest association member. He will help you pick the *right* fence, made of the right metal in the right way, and will explain his right method of fence erecting. He is an experienced local fence specialist who offers more than a product—a complete fence service. His name will be sent with fence facts we offer you.

***Write** to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, Pittsburgh, New York or San Francisco.*

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

NEWS ABOUT *Mills*

M. Lowenstein & Sons, Inc., Gaffney, S. C., has work going forward on $2,000,000 modernization program at two Gaffney units which will enable mills to operate on competitive basis. Change-over in equipment, at cost of about $1,750,000, will facilitate operation at maximum efficiency and minimum cost.

Marion Cotton Co., Marion, S. C., had warehouse destroyed by fire with damage estimated at $30,000.

J. B. McGintey & Co., Forney, Tex., suffered $150,000 loss when warehouse was damaged by fire.

Royston Mills, Inc., Royston, Ga., is planning to install air conditioning in main sewing room and all other rooms of plant, with exception of offices, at cost of $60,000.

Salsberg Thread Mills, Inc., newly formed concern with mill in North Carolina, has opened offices at 404 Fourth Ave., N. Y. Firm will specialize in sewing threads for underwear fields. Oscar Salsberg is president and Roy Salsberg, secretary and treasurer. They were formerly with Threads, Inc., Gastonia, N. C., and Crown Thread Co., New York.

Southern Weaving Co., Greenville, S. C., will construct 23,000 sq. ft. addition to weave room which will consist of completely enclosed main floor and basement, constructed of brick, concrete, and steel with wooden roof. Air conditioning will be installed throughout the building. Project is estimated to cost $140,000. McPherson Co., Greenville, is architect.

Springs Cotton Mills, Lancaster, S. C., will construct modern air-conditioned laboratory equipped with all necessary scientific devices to aid in manufacture of cotton cloth. Novel elevator arrangement involving part of Col. Elliot White Springs' office permits moving it from usual position in cupola down to other floors. Company head can descend with files and secretarial staff to director's room on third floor and to reception room on second floor. The company expects to have installation of air conditioning in seven plants at Lancaster, Chester, Fort Mill, and Kershaw, completed in near future.

Standard Cotton Products Co., Flint, Mich., plans installation of new waste-disposal system at mill. Surveys are underway. Boddy-Benjamin Associates, Inc., 2210 Park Ave., Detroit, Mich., is engineer.

J. Sullivan & Sons, Philadelphia, Pa., will establish branch plant at York, S. C., for manufacture of narrow fabrics, such as labels and zipper tapes. Building will be constructed to house new plant. Twenty-four looms are ready to be shipped to York where they will be stored until building is completed.

United States Rubber Co. has added a sales office at 40 Worth Street, New York, to handle the sale of apparel and other colored yarn fabrics.

Wool Mill News

Abney Mills, Greenwood, S. C., has purchased Textile Div. of Anderson Utilization Co., Anderson. Mill cleans and processes waste from textile mills for use in mattresses.

Airdale Worsted Mills, Woonsocket, R. I., and **Wamsutta Mills,** New Bedford, Mass., of Axelrod organization, have taken offices in John Hancock Mutual Life Insurance Co. building in Boston, Mass. Offices will open in near future.

Amoskeag-Lawrence Mills, Manchester, N. H., has negotiated second mortgage on new machinery for $500,000 for purchase of worsted carding and combing machinery imported from France. New machinery is due to arrive in few months. Mill will soon reopen after shutdown since February.

Bachmann Uxbridge Worsted Corp., Uxbridge, Mass., has leased mill property formerly operated by Highland City Mills, Talladega, Ala., and will convert it to mill for spinning worsted yarns. Property was leased for four years from Mar. 1, 1949, with option to purchase after Mar. 1, 1951. Preparation for manufacture of yarns will start immediately and mill will be ready for full production by Oct. 1, with partial production starting before that date. The Glenmark Mill division, Woonsocket, R. I., has been shut down and is for sale.

Botany Mills, Inc., Passaic,

Check these 5 outstanding guides for the TEXTILE MAN

SEE THEM 10 DAYS FREE!

1. COTTON LOOMFIXERS' MANUAL

By IVAR MOBERG, Instructor in Weaving, Loomfixing and Designing, Nashua Manufacturing Company, Instructor at Lowell Textile School

197 pages, 6 x 9, 108 illustrations, $3.75

Here are detailed instructions on the practical setting, adjusting, and timing of modern looms. Step-by-step, this guide gives you instructions on all phases of cotton loomfixing. If you want a complete course in loomfixing, or only a refresher to broaden your knowledge and increase your skill COTTON LOOMFIXERS' MANUAL will fit your needs to a "T". In this one book you get complete coverage of important subjects such as: left-off, harness, picking, warp-stop, filling-stop, and protector motions; loom construction; filling feelers; cutters; box multiples; shuttles and many others.

2. RAYON TECHNOLOGY

Handbook for Textile Mills

By the Technical Research Department of American Viscose Corp.

273 pages, 81 illustrations and tables, $3.75

Seventeen experts in the field show you the best ways of processing rayon on your own mill machinery. This handbook discusses actual working conditions . . . shows how best to use equipment; analyzes the specific problems likely to arise in using rayon staple, and brings you practical methods for solving them. It covers winding, throwing, warping, slashing, quilling, and weaving operations, in all divisions of the industry. RAYON TECHNOLOGY discusses the construction of rayon fabrics, both those made of continuous filaments, and those made with continuous filaments supplemented by spun yarns . . . everything you want to know about processing rayon.

3. STAPLE COTTON FABRICS

Names, Descriptions, Finishes and Uses of Unbleached, Converted and Mill Finished Fabrics

By JOHN HOYE, Instructor New York Textile Evening Trade School

241 pages, 6 x 9, fully illustrated, $4.00

Here's an encyclopedia of staple cotton fabrics showing you how to identify these fabrics, how to make them, how to finish them, and how to use them. It's an authoritative reference manual of specific trade and technical information on staple American cotton fabrics—designed for use by all concerned with the manufacture, sales and use of these goods. STAPLE COTTON FABRICS covers all types of cotton fabrics . . . unbleached, converted, and mill finished . . . used in garment manufacture and industrial trades. It gives you trade descriptions, illustrations, details of construction, yarns, weaves, etc.

4. PRINCIPLES OF KNITTING

by MAX C. MILLER, Designer and Inventor of Knitting Machines and Fabrics

234 pages, 6 x 9, 193 illustrations, $4.50

Principles involved in the production of knitted fabrics; descriptions of the mechanisms used; and the various garments produced are covered in this practical guide. PRINCIPLES OF KNITTING describes in detail: circular and flat machines, regular and warp fabrics, the principles underlying the various loop structures, their application in various types of machines from earliest days down to the present. Illustrations spotlight the features and important facts about these topics. With this book as a guide you'll gain a clear understanding of the design, uses and advantages of present day knitting machines.

5. FUNDAMENTALS OF SUCCESSFUL MANUFACTURE

by GEORGE GAYNOR HYDE, Consulting Engineer

201 pages, 5¾ x 8¾, 21 illustrations, $3.00

Here are suggestions, techniques and case studies of manufacturing fundamentals. An ideal, step-by-step guide to help you organize a new business or modernize an existing one. The manufacturing executive will gain from this one book a wealth of practical methods and considerations needed to achieve better organization and output. FUNDAMENTALS OF SUCCESSFUL MANUFACTURE covers such processes as designing and processing the product, housing the enterprise, personnel practices, management controls, etc.

JUST CLIP COUPON AND MAIL

10 DAYS' FREE EXAMINATION

McGRAW-HILL BOOK CO., Inc., 330 W 42nd St., NYC 18, NY

Send me for 10 days' free examination on approval books corresponding to the numbers encircled below. In 10 days I will remit for the books retained, plus a few cents postage, or return books postpaid.*

1. 2. 3. 4. 5.

Name .....

Address .....

City ..... Zone..... State.....

Company .....

Position TWF-7-49

*SAVE! We pay postage and packing charges if you send cash with order. Same return privilege.

LANE CANVAS BASKETS

Specifically designed for your Industry

Style 20

for 50 years . . .

we have never compromised with Quality in the construction of our products . . . today, LANE products are better than ever . . .

OUR ENGINEERS ARE AT YOUR SERVICE

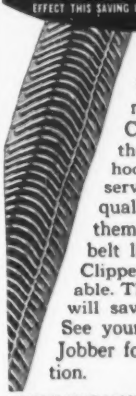
W. T. LANE & BROS., Inc.

Manufacturers

POUGHKEEPSIE NEW YORK

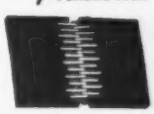
You'll Save 30%* or more by using only GENUINE Clipper Belt Hooks with *Modern* Clipper Belt Lacers

*TIMKEN ROLLER BEARING CO. AND OTHERS EFFECT THIS SAVING IN BELT LACING COST



In over 30 years experience manufacturing belt lacing equipment *exclusively*, Clipper has developed the world's finest belt hooks. To get the best service from these top quality hooks apply them with a modern belt lacer such as the Clipper No. 9 Portable. This combination will save you money. See your Mill Supply Jobber for demonstration.

No. 9 Portable Lacer



CLIPPER BELT LACER COMPANY, GRAND RAPIDS 2, MICHIGAN

Clipper BELT LACING EQUIPMENT

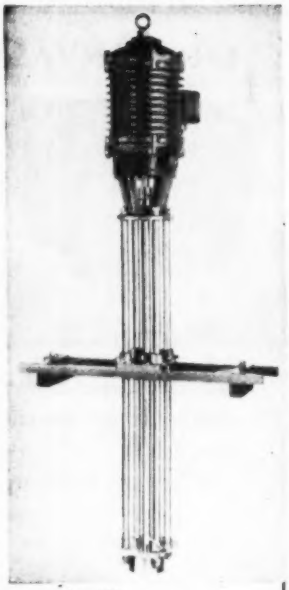
EPPENBACH HOMO-MIXER

A Mixer for Solving Your Processing Problems!

This mixer is extensively used for the processing of textile detergents and finishing compounds, color mixing and incorporating of pigments.

WHY?

The Homo-Mixer reduces particle size, increases total surface area, shortens batch cycles. Emulsifier and disperser. Easily sterilized and cleaned. Mixes in vertical planes. Prevents stratification and dead spots. Minimizes surface boil. Available in laboratory, pilot plant, and production sizes. Can be furnished with or without any type of tanks or kettles, including vacuum or air tight installations.



Write for catalog 402.

We also manufacture Colloid Mills, Paddle and Agi-Mixers, and all types of Alloy metal kettles and tanks.

EPPENBACH, INC.

45-10 Vernon Blvd. Long Island City, N. Y.

INDUSTRIAL ENGINEERS

Specializing in Textiles for over One-Third of a Century

Ralph E. Loper Co.

GREENVILLE, S. C.
FALL RIVER, MASS.

PAY ROLL CONTROLS
WORK LOAD STUDIES
COST SYSTEMS
SPECIAL REPORTS
COST REDUCTION SURVEYS

OL COP and BOBBIN WINDER

Now operating in over 200 Textile Mills in U. S.
This winder gives you 4 big advantages:

1. Eliminates waste
2. Increased yardage capacity of shuttle package
3. Less winding expense
4. Compactness — space saving

Write today for full information

AMBLER TEXTILE MACHINERY CO.
S.E. COR. BODINE AND YORK STS.
PHILADELPHIA, PA.

NEWS ABOUT *Mills*

N. J., is erecting at Lake Wales, Fla., one-story three-unit plant for manufacture of women's and men's bathrobes from parent company fabrics. Later units will manufacture shirts, ties, slacks, and possibly men's suits. Plant will be known as "Botany of Florida."

Canadian Worsted Manufacturers, Ltd., St. Thomas, Ont., were represented in United States recently by George W. Parkinson, manager, and J. G. Gruber, president, who were seeking new machines and equipment for spinning.

Cowan Mills, Lewiston, and **Farnsworth Mill**, Lisbon, Me., have transferred control of woolen properties from Sylvan Corp., Delaware parent corporation of Cotwoll Mfg. Corp. of Delaware, to Cotwoll Mfg. Corp. of Maine.

Creston Woolen Mills Corp., North Kingston, R. I., has been chartered, with incorporators consisting of Antonetta D. Strongoli, Anne T. Cottam, Sophie Tarsky, Providence, R. I., for purpose of manufacturing and dealing in woolens, worsteds, etc.

Deering, Milliken & Co., Excelsior Mills No. 4, worsted finishing plant, Pendleton, S. C., has begun production in new mill. Plant cost about $2,000,000 and is described as most modern and best equipped in world.

Forstmann Woolen Co. has named three salesmen to its knitwear division. William F. Demme will cover the middle west out of Chicago, O'D Patrick will work out of Pittsburgh, and B. W. Pendleton will cover from Denver westward.

Pike & Co. has started a new high-grade worsted weaving plant in Quebec City, Canada.

L. L. Sellinger, Inc., 90 Essex St., Boston, Mass., has been chartered with capital of $50,000, to manufacture woolen and worsted goods. Leonard L. Sellinger is president.

Synthetic Mill News

American Viscose Corp., and **Monsanto Chemical Co.**, Roanoke, Va., have united in formation of new company for research and development work in synthetic fibers. Dr. Carroll Hochwalt, of Monsanto, will head company, which will use research facilities of both firms. Dr. Charles S. Venable, of American Viscose, will be secretary and treasurer.

Burlington Mills Corp., Piedmont Heights plant, Burlington, N. C., expects to complete additional manufacturing and warehouse space by fall. H. L. Coble Construction Co., Greensboro, is contractor. Estimated cost is $300,000. The company expects the construction of an addition to plant at Neuse, N. C. to be completed in near future. Program will provide for 6,000 spindles and 130 looms to be used for rayon exclusively. Addition to slasher room will give plant about 8,000 sq.ft. of floor space.

Carltex, Inc., Leicester, Mass., has been incorporated with capital of 100 shares of stock, no par value, to manufacture rayon fabrics. Edward P. Leveen, Jr., Leicester, is president.

Columbia Cellulose Co. Ltd., has increased to two shifts a day the rate of construction on its high alpha cellulose pulp plant near Prince Rupert, B. C. Laying of pipe lines has been completed; expansion of carpentry and concrete work is now under way.

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., will expand production of nylon. Immediate plans involve projects for additions to nylon-spinning plants at Seaford, Del., and Chattanooga, Tenn.

Textron, Inc., has granted three $500 scholarships to assist textile students during their senior year at N. C. State College, Clemson Agricultural College, and the A. French Textile School. Two recipients have already been selected: J. F. Cathcart of Clemson and Horace E. Corley at the A. French Textile School.

Troy Textiles, Inc., Troy, Ala., is constructing addition to plant which will add 5,000 sq. ft. of floor space. Whaley Lumber Co., Troy, is contractor.

Knitting Mill News

Ardmore Hosiery Mills, Inc., Ardmore, Tenn., has begun construction at Ardmore on first of four manufacturing units to be built. Plant now

NEWS ABOUT *Mills*

under construction will be 60 x70 ft. concrete-block structure, completely air-conditioned. Estimated cost is $33,000. Operations are planned for late July.

Artcraft Hosiery Mills, Inc., Stroudsburg, Pa., is installing 60-gage full-fashioned knitting machines. Production from new equipment will be ready for early fall delivery.

Atsco Hosiery Mills, Inc., Graham, N. C., has been formed with authorized capital stock of $100,000 to deal in and manufacture hosiery. Incorporators are Don E. Scott, Don E. Scott, Jr., both of Graham; and H. K. Atkinson, of Greensboro, N. C.

Davenport Hosiery Mills, Chattanooga, Tenn., is installing a big battery of 60-gage Textile machines as fast as they can be delivered to the plant.

Grey-Mist Hosiery Co., Hanover, Ont., is now in complete production. Plant is housed in modern type, one-story building.

Largman, Gray, Inc., Philadelphia, Pa., has installed machinery to add 60-gage construction to fall line of Blue Moon full-fashioned stockings. Company will also produce 45-gage 30-den. stocking in white.

Liddell Hosiery Ltd., Owen Sound, Ont., is installing knitting machines under guidance of Leander Liddell, proprietor of firm.

Northmont Hosiery Corp., Reading, Pa., is installing two 60-gage Kalio full fashioned machines in plant. Machines will be in operation by mid-August. Company has completed installation of air-conditioned system which cost about $140,000.

Palmetto Full-Fashioned Hosiery Mills, Saluda, S. C., will begin construction this month of finishing plant on grounds adjoining present plant. Total expenditures for building and machinery are estimated at $100,000. J. T. Edwards is president; H. O. Edwards, vice-president; V. M. Edwards, secretary and treasurer; and J. N. DeLoache, office manager.

Paramount Hosiery Mills, Lambertville, N. J., has changed name to Lambert Hosiery Mills, Inc. Change in name does not affect ownership, operation, or personnel.

Pilot Hosiery Mill, Valdese, N. C., has completed addition to main office building which has more than doubled previous office space.

Robinson Hosiery Co., Gastonia, N. C., has awarded contract to Young Construction Co., Rock Hill, S. C., for erection of mill building. J. N. Pease & Co., Charlotte, N. C., is architect engineer.

Spencer Mfg. Co., Spencer, W. Va., has moved offices into new plant near Spencer. Company offices formerly were located in Wells Bldg. on Main Street, site of firm's pilot plant. Transfer of knitting company's equipment to new building is expected to be completed by end of May.

Wiscassett Mills Co., Albemarle, N. C., has installed some 60-gage, 32-section machines which complete firm's modernization program. All old equipment has been replaced, and aside from new 60-gage knitters, company now has only modern 51-gage, 32-section machines with automatic welt turners.

Dyeing and Finishing Plant News

Clarksville Finishing Div., Colonial Mills, Inc., Clarksville, Va., plans addition to filtration plant.

Coated Fabrics Corp., Norwalk, Conn., has been organized to operate textile processing plant. Lewis D. Jacobson, Norwalk, is vice president and treasurer.

Newport Finishing Corp., Fall River, Mass., has developed a satin finish for rayon linings, reported to be the first of its kind in the field. Five years of research have gone into the development.

Paramount Printing & Finishing Co., Pawtucket, R. I., has received permit to build brick addition to mill, at estimated cost of $1,800.

Rockland Bleach & Dye Works, Inc., Brooklandville, Md., has awarded contract to John W. O'Day, Towson, Md., for one-story addition estimated to cost $50,000, exclusive of equipment.

A NAME THAT MEANS DEPENDABILITY

in processing your nylon, silk and rayon yarns

Heineman famous for quality since 1893

OSCAR HEINEMAN CORPORATION

Division of Aotea Industrial Corporation

DONALD O. BREWSTER, President and General Manager

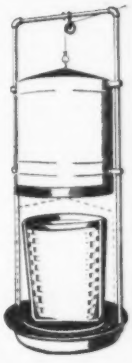
2701 ARMITAGE AVENUE, CHICAGO 47, ILLINOIS

SALES AGENTS

C. D. GOTT COMPANY • 513 CHATTANOOGA BANK BLDG. • CHATTANOOGA, TENNESSEE

THOMAS C. ASSHETON CO. • 11 WEST FORTY-SECOND STREET • NEW YORK 18, N. Y.

"Standard" WATER SEAL YARN STEAMER



The Standard Water Seal Yarn Steamer is simple in operation and strongly constructed. There is nothing to get out of order. Less time and fewer operations are required to steam your yarn to any degree, as there is a minimum of steam loss.

Hundreds of these "Standard Steamers" are in daily use by worsted, woolen, cotton, rayon and other types of textile mills where a steam conditioning machine is required to set the twist.

Fifteen pounds pressure is ample to operate these Standard Yarn Steamers. Baskets of six bushel capacity (approximately 58 lbs.) require but a few minutes.

The base is heavy cast iron and the bell or basket cover is 24 gauge galvanized steel.

Immediate Delivery

For complete details — write for descriptive folder.

STAMICO

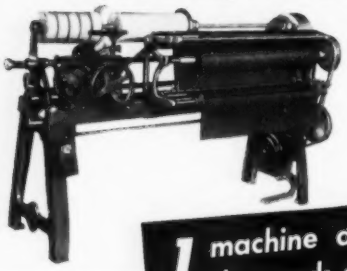
STANDARD MILL SUPPLY CO.

1064 Main St. Pawtucket, R. I. — 6708 Empire State Bldg. New York, N. Y.

SOUTHERN STANDARD MILL SUPPLY CO.

Charlotte, N. C.

UTICA Combination Winding and Cutting Machine



1 machine does the work of 2

THIS fast-producer has all the advantages of two machines, but uses the floor space of just one. Cuts light, medium, or heavy weight, both straight and bias fabrics. Cutter and Winder can be run at the same time. Rigidly constructed for long, trouble-free operation. Has measuring scale for cutting accurate rolls. It's safe—knife, grinding wheel, all gears and sprockets are well-guarded. Equipped with Veeder Root yardage counter. Made in 40, 45, and 55 inch width machines. Make your own bindings—as you need them—from the same material as your product—at lower cost. Write today.

UTICA

NOVELTY AND MILL SPECIALTY CO.

2145 DWYER AVE., UTICA 2, NEW YORK

Builders of Textile Machines Since 1903

LOCKWOOD GREENE ENGINEERS, INC.

Architects and Engineers for the Textile Industry

10 ROCKEFELLER PLAZA • NEW YORK 20, N. Y.

Boston Spartanburg Montreal

THE MONTGOMERY COMPANY

ESTABLISHED 1871

WINDSOR LOCKS, CONN.

BARE ELECTRIC CONDUCTOR & RESISTANCE TINSEL CORDAGE
DECORATIVE TINSEL — LAME — THREADS — CORDS — LAMINETTES
NOVELTY YARNS

NEWS ABOUT *Men*

Clifton E. Allen, former division superintendent at Wamsutta Mills, New Bedford, Mass., is now vice president and general manager of Panell Fabrics, Inc., Central Falls, R. I., a newly formed company engaged in broadloom weaving.

William S. Arnold, former production co-ordinator at Glenmark Mill division of Bachmann Uxbridge Worsted Corp., is now associated with Crown Mfg. Co.

Hall Ballard has become superintendent of rayon weaving plant of Burlington Mills Corp., Altavista, Va. He was formerly with company Hillcrest throwing plant at High Point, N. C.

William Buck was recently elected president of the Canadian Technical Textile Federation at its annual meeting in Montreal. He succeeds **E. P. Carney,** president since 1938. The group is comprised of five Canadian textile and chemical associations.

Chad Callaway, Jr., treasurer of Crystal Springs Bleachery Co., Chicamauga, Ga., was recently elected president of the National Association of Credit Men. He succeeds Charles E. Fernald of Fernald & Co., Philadelphia, Pa.

Edmond W. Camp, head of the textile engineering department at Alabama Polytechnic Institute, has retired after 44 years of teaching. He was recently honored for his service by Phi Psi textile fraternity.

James C. Carmack, former superintendent of Baxter, Kelly & Faust, Philadelphia, Pa., has been named superintendent of Rainbow Valley Dye Works, Inc. He was at one time with Airdale Worsted Co., Woonsocket, R. I.

Robert H. Chapman, vice president of Inman, S. C., Mills, and Riverdale Mills, Enoree, S. C., has been elected chairman of the board of trustees of the J. E. Sirrine Textile Foundation, Inc. The post has been unfilled since the death of Mr. Sirrine, textile engineer, two years ago.

Richard Chase has resigned as superintendent of Moosehead Woolen Mills, Corinna, Me.

Charles H. Coggin, formerly assistant superintendent of Columbia Mills Div. of Mt. Vernon-Woodberry Mills, Inc., Columbia, S. C., has been promoted to agent, succeeding the late **L. Cooper Smith.**

Richard G. Conant, president of Wellington Sears Co., Inc., has been elected a member of the board of the Commerce and Industry Assn. of New York, Inc. Mr. Conant is also a director of the West Point Mfg. Co., Columbus Mfg. Co., Dixie Mills, Inc., and Equinox Mill.

Ernest C. Craig has resigned as production engineer at Wood Mill of American Woolen Co., Lawrence, Mass., to take up similar duties with Goodall-Sanford, Inc., Sanford, Me. **John A. Ward,** connected with planning department at Wood Mill, has been appointed to succeed Mr. Craig.

W. F. Crowder, general superintendent of thread plant of American Yarn & Processing Co., Mount Holly, N. C., and Spun Fibers, Inc., of Whitney, N. C., has resigned.

Fletcher S. Culpepper, head of the cotton division of the textile research department of American Viscose Corp., Marcus Hook, Pa., has resigned. He is now with Saco-Lowell Shops as sales representative in the Charlotte, N. C., territory. **Harry S. New** has succeeded Mr. Culpepper at American Viscose.

Fred Daugherty, assistant superintendent of Phenix plant of Burlington Mills, Kings Mountain, N. C., has been promoted to superintendent, succeeding **Jack Day,** who will

work on special assignments. **C. O. Smith**, formerly assistant superintendent of Flint No. 1 plant, has been transferred to Phenix plant to assist Mr. Daugherty.

Francis De Orsey has assumed duties as general manager of Schneider Mills, Taylorsville, N. C., having been promoted from Hadley Mills, Holyoke, Mass., where he served in the same capacity.

Charles W. Dorn, J. C. Penney & Co., was unanimously reelected chairman of the New York Section of the AATCC at the May meeting of the group. **Paul J. Luck**, Calco Chemical Div., American Cyanamid Co., was reelected vice chairman; **John H. Hennessey**, General Dyestuff Corp., treasurer; and **Norman A. Johnson**, American Dyestuff Reporter, secretary. Dr. Marcus Kleber was guest of honor for the evening.

Stanley Easton has joined Rugby Knitting Mills, Buffalo, N. Y., as production manager of sweater department. Mr. Easton succeeds the late Joseph Banzhoff.

A. G. Fisher, Jr., formerly assistant superintendent of finishing plant of Dan River Mills, Inc., Danville, Va., has been appointed Southeastern sales representative for E. F. Drew & Co., Inc., Greenville, S. C.

Gordon Frazier has become overseer of bleaching at Gilbert Knitting Co., Little Falls, N. Y.

William Frazier has become overseer of finishing at Colonial Woolen Mills Co., Cleveland, O., succeeding **A. Davenport.**

Frank Furnace has become overseer of weaving at Goodall-Sanford, Inc., Springvale Mill, Sanford, Me., succeeding **J. Wilkinson,** resigned.

Daily Gambil has been promoted to assistant foreman of jack-spinning department of Fieldcrest Blanket Mills, Draper, N. C.

Ernest G. Geier, president of Duplan Corp., Hazelton, Pa., was recently honored by a surprise presentation of a bronze medal in his own likeness, in recognition of the 40 years of his service and leadership in the company. The medal was the first in a series of awards which are to be made to company employees for outstanding contributions to the firm.

Charles F. Goldwaite, senior cotton technologist at the Southern Regional Research Laboratory in New Orleans, received a certificate and medal for "outstanding public service" in Washington recently.

R. Guerriero has resigned as plant superintendent of Amity Dye & Finishing Co., Brooklyn, N. Y.

F. Harbine Hagenbuch has been elected president of Hoover & Allison Co., Xenia, Ohio, to succeed the late Charles L. Darlington. The company operates three mills in the manufacture of jute, sisal, and manila cordage in all sizes.

H. Hankins has resigned as superintendent of Orr Felt & Blanket Co., Piqua, Ohio. **Howard Nitwitz** has been promoted to overseer of felt room succeeding **E. Dorsen.**

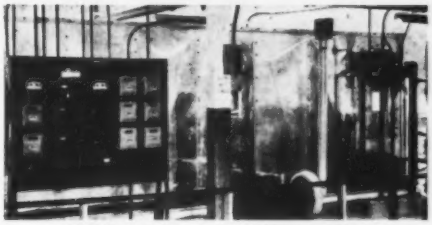
Freeman R. Harris has succeeded **Robert J. Mathewson** as vice president in charge of sales for Standard-Coosa-Thatcher Co., Chattanooga, Tenn. **J. S. Verlenden**, chairman of the board, and Mr. Mathewson both retired last month after 28 years' service each. **Emil Davis** has become manager of the plant.

J. B. Harris, vice president of Greenwood, S. C., Mills, was recently elected president of the Cotton Manufacturers Assn. of South Carolina. He succeeds **Lawrence O. Hemmett**, Chiquola Mfg. Co., Honea Path, S. C.

M. Earl Heard, vice president and director of research at West Point Mfg. Co., was recently elected grand president of Phi Psi, national honorary textile fraternity. **Prof. James L. Giblin** of New Bedford Textile Institute was elected grand vice president.

Stephen L. Herusick has become assistant superintendent at Baxter Woolen Co., Somersworth, N. H.

LOW COST . . HIGH SPEED
GAS FIRED, RADIANT
DRYING & CURING RANGES



- TENTER FRAME HOUSINGS
- PIECE GOODS DRYERS
- PRINT GOODS DRYERS
- SLASHER DRYERS
- LATEX DRYERS & CURERS
- CHEMICAL DRYERS
- SKEIN, YARN AND STOCK DRYERS

MANUFACTURERS

GAS AND ELECTRIC INFRA-RED UNITS, OVENS AND CONVEYORS FOR HEATING • DRYING • BAKING • CURING • SINGEING • DEHYDRATING

Write for Complete Literature

PROCESS HEATING, INC.

INDUSTRIAL HEATING ENGINEERING

46 Herkimer Place, Brooklyn 16, N. Y.

ANNOUNCING A
NEW ALLEN BEAM

THE "G" LINE

FOR ALL MAKES OF WARPERS

3 types:

Cotton (GK), Rayon (GR), Nylon-Acetate (GN)

Important advances in design and construction.

Substantially increased strength.

New features to maintain truest running.

WRITE FOR DETAILS

ALLEN COMPANY

General offices — 156 River Road
New Bedford, Mass.

Representatives in all Textile Localities and all Principal Countries of the World.

ALFA CUTTING & STACKING MACHINE

Measures to length, cuts and stacks pieces in neat pile.
Will handle many and various types of delicate or coarse materials.
Fully Automatic—Large Production.
Accurate—Clean Cut.
Quick adjustment for cutting various lengths.
Unique spring suspension knife arrangement. Self-honing—No precision setting.
Adaptable to many cutting problems.
We will be glad to have your inquiries and pleased to submit full information.
Cutting Equipment available from simple hand cutters to fully automatic machines.

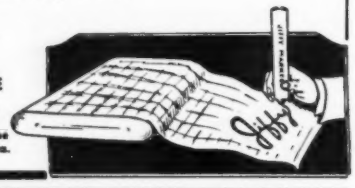
SPADONE MACHINE COMPANY, INC.
10 EAST 43rd STREET NEW YORK 17, N. Y.

Representatives for:
ALFA MACHINE COMPANY, INC.

JIFFY TEXTILE MARKER

For use on rayon, cotton and woolen material.
Dye-resistant and boil-proof, permanent, inexpensive, quick and easy to use.

For information address
JIFFY TEXTILE MARKER CO.
406 W. School Lane
Philadelphia 44, Pa.



LACY ATHERTON & DAVIS
Architects & Engineers
INDUSTRIAL & TEXTILE BUILDINGS
WILKES-BARRE & HARRISBURG
PENNSYLVANIA

NEWS ABOUT *Men*

Robert Honold, director of the Textile Institute of Zurich, Switzerland, was honored at a dinner given recently in New York by some of his former students now serving as technicians and executives in the American textile industry.

Percy S. Howe, Jr., has been elected chairman of the Cotton-Textile Institute committee on international trade and government regulations. He is president of the American Thread Co., and has served as chairman of the board of directors of the institute.

Henry F. Keller has resigned as overseer of weaving at Monitean Mill, Inc., California, Mo., and has been succeeded by **Herbert Strickfadden**, former second hand.

S. C. Lemen, of Martinsburg, W. Va., has become overseer of spinning at Rock River Woolen Mills, Janesville, Wis.

Frank A. Lester, 72-year-old cotton goods finisher who had been employed exactly 34 years by the Slatersville, R. I., finishing plant of Kendall Mills, has retired. He has been active on committees in the National Association of Finishers, and was most recently New York sales representative of the Slatersville plant.

Dean M. Lewis, Colonial Piece Dye Works, Inc., North Bergen, N. J., was recently elected president of the Silk & Rayon Printers & Dyers Assn. of America. He succeeds **Thomas F. O'Brien**, R. W. Bates Piece Dye Works, Garnerville, N. Y.

Wilfred W. Lufkin, Jr., has been made general manager of Dan River Mills, Inc., Danville, Va.

Joseph J. Lyons, of Anderson, S. C., has been appointed executive officer of M. Lowenstein & Sons, New York, in charge of Lowenstein mills and central executive offices of the mills, now located in Anderson.

Joe K. McCutchen, president of J. & C. Bedspread Co., Ellijay, Ga., was recently elected president of the Tufted Textile Manufacturers Assn. He succeeds **Thomas J. Brown**, Georgia Textile Corp., Calhoun, Ga.

I. T. Meyer, who has been associated with Industrial Rayon Corp., Covington, Va., has been appointed manager of Covington plant, succeeding **Lester R. Carrier**, retired.

J. J. Milam has been appointed assistant to J. W. Solomon, general sales manager of United States Rubber Co. textile division.

John H. Moore has resigned as overseer of finishing at Champlain Mill, Winooski, Vt.

Edmund G. Munson was elected vice president and member of board of Oneida Knitting Mills, Utica, N. Y., succeeding the late James S. Conway.

N. Bernard Murphy, vice president and general manager of Riegel Textile Corp., Trion, Ga., has been elected president of the Cotton Mfgrs. Assn. of Georgia. He succeeds **R. Donald Harvey**, general manager of Pepperell Mfg. Co., Lindale, Ga.

Henry Nadel, vice president and general sales manager of Bloomsburg Mills, Inc., Bloomsburg, Pa., has resigned.

Ollan J. Pearsey, formerly paymaster for Carolina Mills, Inc., High Shoals, N. C., has been named director of new personnel department, succeeding **David W. Frye**.

J. C. Platt, vice president of Chicopee Mfg. Corp., Chicopee, Ga., was recently elected president of the Textile Education Foundation, Inc. He succeeds **Paul K. McKenney**, president of Swift Mfg. Co., Columbus, Ga.

James T. Poor, has been promoted to superintendent at Merrimack Woolen Co., branch of M. T. Stevens & Co., Lowell, Mass. He was formerly assistant superintendent at mill, and succeeds **Leslie E. Runton**, who is now in main office engineering department of Stevens company.

R. L. Rearden, West Point Mfg. Co., Langsdale, Ala., was

NEWS ABOUT *Men*

(Continued)

named chairman of the Alabama Textile Operating Executives association. He succeeds **C. H. Moody**, Dwight Mfg. Co,. Alabama City, Ala.

Crawford Rhymer has relinquished duties as superintendent of carding and spinning departments at Laurens Mills, Laurens, S. C., and has joined sales staff of Dary Ring Traveler Co., Taunton, Mass., as sales engineer and representative in South Carolina.

Harry Riemer, editor of Daily News Record, received an award for "unselfish efforts in the fields of civic and philanthropic endeavor" at the third annual Achievement Award Dinner of the Textile Chapter of the American Veterans Committee recently. Others similarly honored were **William D. Benson**, vice president of Industrial Rayon Corp., and **Abram M. Perlman**, head of the concern that bears his name.

Margaret Hayden Rorke, managing director of The Textile Color Card Assn., is in Europe on a two months' trip. Her itinerary includes Paris, London, Brussels, Amsterdam, Zurich, Rome, Milan, Florence, and the Scandinavian countries. She is making a survey of European color trends.

Frank E. Rowe, Jr., former technical advisor on textile machinery at Dan River Mills, Inc., is now general sales manager of Abington Textile Machinery Works, Boston. He succeeds **Fred H. White**, who has gone into the sale of his own patented vacuum apparatus.

J. C. Simmons, formerly assistant superintendent of Cedartown Yarn Mills, Cedartown, Ga., is now superintendent of Fullerton Cotton Mills, Inc., Newnan, Ga.

Cecil Squires, foreman of sheeting mill of Fieldcrest Mills, Draper, N. C., has resigned to become resident manager of new plant of Albert L. Barson, Inc., Lavonia, Ga.

Stephen J. Stroock has resigned as vice president of S. Stroock & Co., Inc. He will continue as a member of the board.

A. E. Thompson has resigned as overseer of worsted combing at Pacific Mills, Lawrence, Mass.

A. L. Thompson, who recently resigned as designer for Franklinshire Worsted Mills, Philadelphia, has accepted similar position with Montrose Worsted Mills, Granby, P. Q., Canada. **George DeRyke** has become designer for company, succeeding Mr. Thompson.

Rudolf Tichler, supervisor of finishing at Celanese Corp. of America, Rome, Ga., has retired after 42 years in the rayon industry. He is believed to be the only man in the country, probably in the world, left in the industry among those who worked intimately with Count Hilaire de Chardonnet, "father of the rayon industry."

James L. Truslow, export-sales manager for Saco-Lowell Shops, recently returned from Europe to take up his new post at company headquarters in Boston. He joined Saco-Lowell this past spring after serving as European representative of American Viscose Corp. for three years.

John J. Wanner, manager of Winchester Knitting Mills, Martinsburg, W. Va., has resigned to organize his own mill business. He will be succeeded by **W. A. Hefferman**, former manager of Allentown, Pa., plant of Julius Kayser & Co.

Arthur I. Webber has resigned as vice president and treasurer of Merrimack Mfg. Co., Lowell, Mass. He will continue to be associated with the company in an advisory capacity for the balance of 1949.

Al Weiner has been named manager of Verney Corp. reorganized fabric-development department, Boston, Mass.

Edward White, IV, formerly with drapery division of Simtex Mills, New York, has been appointed textile engineer and stylist for decorative fabrics of *Lumite Div. of Chicopee Mfg.* Co., Cornelia, Ga.

Henry L. Wilder, Jr., has become cardroom overseer at Goodyear-Clearwater Mills, Rockmart, Ga., succeeding **Harold A. McKew**, who has transferred to company plant in Brazil.

Specify AMERICAN

For Knitting or Weaving

*AMERICAN DURENE**

Highest Quality Mercerized Yarns

NATURAL YARNS

Combed Peeler or Sak, 10's—90's Single
Combed Peeler or Sak, 10's—100's Ply

Selling Agents for

Efird Manufacturing Company

Knitting Yarns

Combed, 14's—60's Carded, 8's—30's

Thread Division · Lawrenceburg, Kentucky

W. H. SUTTENFIELD, Vice President and Sales Manager

BURLINGTON, N. C. — Mr. C. E. Wood — Miss K. R. Abernethy — Mr. T. F. Davis
CHATTANOOGA, TENN. — Mr. H. W. Davenport — 725 Chestnut Street
PHILADELPHIA, PA. — Mr. Wm. S. Montgomery — 3101 N. Broad St.
HIGH POINT, N. C. — Mr. E. J. Holbrook
GASTONIA, N. C. — Mr. T. C. Smotherman
CHICAGO, ILLINOIS — Wood & Hutchinson — 222 W. Adams St.
NEW YORK, N. Y. — Mr. W. L. Brown — Room 2006 — Empire State Bldg.

American Yarn & Processing Company

Mount Holly, North Carolina

Specified by textile leaders for 68 years

HUBINGER OK BRAND THIN BOILING STARCH

- *Always dependable*
- *Always uniform*
- *Boils thin*

The services of our technicians are always available without obligation.

Distributed by
Ira L. Griffin, P.O. Box 1576
1429 Bryant St., Phone 4-8306
Charlotte, N. C.

THE HUBINGER CO., Keokuk, Iowa—Est. 1881

STANDARD PRACTICE ...

MARSH STENCIL MARKING

FOR STENCIL MARKING SHIPMENTS

Users save $50 a month with Marsh Stencil Machines, Brushes, Inks. Electric and Hand Operated *machines cut* ½", ¾", 1" *letters.* For sample stencil, Shippers' Handbook, prices, pin this to business letterhead with your name.

MARSH STENCIL MACHINE CO.
50 Marsh Bldg. · Belleville Ill., U. S. A.

WHY GUESS MOISTURE CONTENT?

Portable K.M.C. PSYCHROMETERS

. . . will tell you instantly and accurately.

Applicable to all textile raw material, yarns and fabrics.

KMG

KEARNY MANUFACTURING COMPANY, INC.

KEARNY, N. J. GREENVILLE, S. C.

*Reg. U. S. Pat. Office

LOOM MOTOR PINIONS

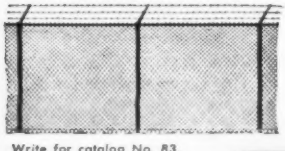
HARDENED STEEL IN STOCK

Non-Metallic Gears for Silent Drives

Supplying the trade for over 20 years
Write for price list: Dept. C

LAMINATED SHEET PRODUCTS CORP.
259 A STREET — BOSTON 10, MASS.

THE ULTIMATE IN INDUSTRIAL PROPERTY PROTECTION



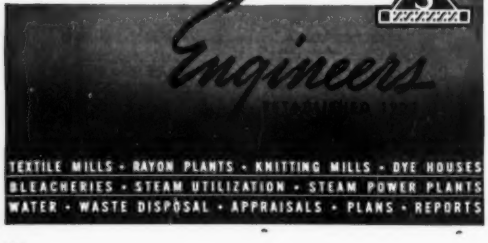
You may be sure a Stewart All Beam Chain Link Wire Fence will give you complete protection because, section for section, it is the heaviest and strongest Chain Link Wire Fence made.

Write for catalog No. 83.

THE STEWART IRON WORKS CO., INC.
1524 Stewart Blk.
Cincinnati 1, Ohio

Stewart IRON and WIRE FENCES

J. E. SIRRINE CO.
GREENVILLE • SOUTH CAROLINA


Engineers
TEXTILE MILLS • RAYON PLANTS • KNITTING MILLS • DYE HOUSES
BLEACHERIES • STEAM UTILIZATION • STEAM POWER PLANTS
WATER • WASTE DISPOSAL • APPRAISALS • PLANS • REPORTS

NEWS ABOUT Men

Frederick A. Williams, former president of Cannon Mills, Inc., has resigned his post as chief of SCAP textile operations in Japan. He is returning to the United States.

Everett Wood, formerly of Arms Textile Mfg. Co., Manchester, N. H., has become overseer of dyeing at United Wool Piece Dyeing & Finishing, Passaic, N. J.

Vernon Zweck, vice president of William Whitman Co., Inc., has resumed direction of the cotton and rayon fabrics division of the firm, succeeding **Charles S. Underwood,** resigned. **Charles H. Borne** has succeeded Mr. Zweck as the manager of the wool fabrics division. Mr. Borne was elected a vice president on June 21.

OBITUARY

Ben Haber, 69, of Erie Dyeing & Processing Co., died June 6. He became president of the firm shortly after leaving college. In 1942, he and four others founded the Cashmere Corp. of America, makers of sweaters and yarn. He was impartial chairman of the dyeing industry in 1933 under the National Recovery Administration.

Max Hahn, 60, who three years ago founded Easton Looms, Inc., Raubsville, Pa., and was general manager of the firm, died recently.

Henry D. Ledbetter, 81, president of the Ledbetter Mills, Rockingham, N. C., and long identified with the textile industry, died recently.

Samuel Smith, 63, owner of Model Knitting Mills, Milton, Ontario, was killed May 18 when his automobile was struck by a train.

Vaughn A. Starr, 60, retired president of the Starr Silk Mill, Brewton, Ala., died recently. A native of New Jersey, he settled in Brewton 19 years ago as manager of the Brewton Silk Mills, whose name he later changed to Starr Silk Mill.

Frederick P. Woll, 70, president and founder of F. P. Woll & Co., Philadelphia, Pa., processors of upholstery material, died recently.

George M. Burke, 78, former vice-president of Klearflax Linen Looms, Inc., died recently. He retired as Klearflax officer a year ago and since then had served as a consultant on flax-processing problems. He developed new methods of processing flax.

James S. Conway, 62, vice president of the Oneida Knitting Corp., Utica, N. Y., died recently. He had been with the company for almost 40 years, during which period he had been superintendent of the yarn plant.

CHARLES COHEN, 63, president of The Lamport Co., died in May after a brief illness. Prominent in both the textile industry and in civic and philanthropic affairs, he had headed his own cotton goods converting company before joining the Lamport Company as treasurer in 1921. He had been a member of the Cotton Industry Advisory Committee of the War Production Board. For his fund-raising and humanitarian activities, he was honored last year by the Textile Chapter, American Veterans Committee.

S. Newton Finney, 61, vice president of John Waldron Corp., died May 22nd. He had been with the organization since 1923.

C. Edwin Hutchison, 55, former vice-president, purchasing agent and director of American Yarn & Processing Co., drowned in the Catawba river near Mount Holly, N. C., in May. He had only recently resigned from American Yarn after 31 years with the firm, which was founded by his

NEWS ABOUT *Men*

(Continued)

father, the late C. E. Hutchison. He was in the process of establishing his own cotton brokerage business at the time of his death.

Charles A. Brower, 65, for 30 years superintendent of Little Mfg. Co., Wadesboro, N. C., before his recent retirement, died recently.

Donald C. Buchan, retired superintendent of the M. T. Stevens Mills, North Andover, Mass., died recently.

Dr. Harry T. Edwards, 71, fiber specialist, who pioneered in introducing manila hemp plantations into tropical America, died recently.

George B. Gossett, 67, maintenance supervisor for Slater Mfg. Co., Slater, S. C., died recently.

Robert C. Graham, 65, of Pulaski, Va., for the past 12 years associated with the Virginia Maid Hosiery Mills, Wallner Silk Hosiery Mills, and Acme Hosiery Dye Works, as secretary, assistant treasurer and office manager, died recently.

Robert H. Lindsay, 77, superintendent of the U. S. Finishing Co., Providence, R. I., from 1909 to 1917, died May 10. He had been superintendent of the Sturbridge Finishing Co.

Frank Mansfield, 53, former manager of the Narragansett Finishing Co. plant at White Rock, R. I., died in May. He had retired several years ago.

Joseph J. Moosmann, former assistant general namager of the fabrics and finishes department of E. I. duPont de Nemours & Co., died in May. He had recently returned from a vacation in Florida.

Clifford J. Nolan, 64, district manager for Mohawk Carpet Mills, Inc., in Dallas, died May 16.

Earl Lewis Ridley, 50, plant engineer at Bigelow-Sanford Carpet Co. for 20 years, died recently. A native of Fall River, Mass., he graduated from Bradford-Durfee Textile Institute and joined the Bigelow company in March 1925. He was a member of the American Society of Mechanical Engineers.

W. O. Ryburn, 75, former secretary-treasurer of Carolina Bleachery, Salisbury, N. C., died May 19.

John W. Starnes, 58, former superintendent of the Linford Mills, North Belmont, N. C., and more recently with Imperial Yarn Mills, died May 12.

John S. Burns, 65, retired erector foreman of Draper Corp., Hopedale, Mass., died in May.

John H. Grady, 68, foreman at the Bachmann Uxbridge Worsted Corp. mill, Millbury, Mass., died in May.

Tom B. Gresham, Sr., 56, calender-room overseer in the finishing department of the Lyman plant of the Pacific Mills, Lyman, S. C., died May 26.

John A. Humphries, 77, retired department foreman for Alexander Smith & Sons Carpet Co., Yonkers, N. Y., died recently. He had been employed by the carpet company for 49 years.

Karl J. Kehl, 59, mechanical department supervisor for Alexander Smith & Sons Carpet Co., with which he was asssociated for 37 years, died in May.

William J. Stewart, 73, retired foreman for the Draper Corp., Hopedale, Mass., died May 25. He had worked at the Draper plant for more than 40 years.

Anthony D. Nazzaro, 68, of Lyons Factoring Co., died recently in Paterson, N. J. Born in Avellino, Italy, Mr. Nazzaro was a dyer before coming to the United States in 1900. During his career in this country he was president of the Perfection Silk Dyeing and Finishing Company and the Victory Dyeing and Finishing Company.

Dickerson G. Baker, 78, retired research engineer for the American Thread Co., Holyoke, Mass., died May 28. He was a nationally known authority on filament winding and held over 25 patents on precision-winding processes. For some time he had been connected with the Universal Winding Co., Boston and the Pettee Machine Wks., Newton Upper Falls, Mass.

Harold Rubin, 48, vice president and director of American Silk Mills, Inc., died in May.

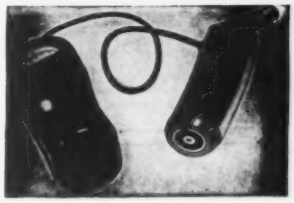
Announcing New Model PD-1

MOISTURE REGISTER

for

SCOURED WOOL
COMBED WOOL (tops)
WOOL YARN (skeins)
WOOL BLANKETS

BULK COTTON



Deep, accurate, immediate moisture content readings

Now you can quickly and easily test moisture content in the range of 0-15% (wet basis). Specifically designed for the textile industry, Model PD-1 makes use of electronic penetration field to test material to average depth of three inches as compared to depth of one inch heretofore.

Duplicable readings are insured by microswitching arrangement which lights meter dial when correct pressure for test is applied. Calibrations for scoured and combed wool, wool yarns and wool blankets are available with instruments.

Similar model available for bulk cotton.

Write to day for complete details. Specify type of material to be tested. Moisture Register Company, Dept. G, 133 North Garfield, Alhambra, California.

ELECTRONIC MOISTURE REGISTER

The standard in moisture testing

Just One Hop

to your

Business Center!

Use ALL the facilities of the

Prince George Hotel

28th Street, East of 5th Avenue, N. Y. C.

New Sample and Showrooms where your merchandise may be attractively displayed.

Famous *Quality* Shuttles

The choice of particular textile mills for dependable service, backed by the experience of 118 years.

SOUTHERN REPRESENTATIVES: Watson and Desmond, Box 1954, Charlotte, N. C., John W. Littlefield, 810 Woodside Bldg., Greenville, S. C., Walter F. Daboll, Jefferson Bldg., Greensboro, N. C. **NORTHERN REPRESENTATIVE:** Guy C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass.

WOOL SILK COTTON

WATSON-WILLIAMS MFG. CO. Millbury, Mass.

SEARCHLIGHT SECTION

(Classified Advertising)

EMPLOYMENT : BUSINESS : OPPORTUNITIES : EQUIPMENT : (Used or Resale)

UNDISPLAYED ——RATES—— DISPLAYED

96 cents per line, minimum 4 lines. To figure advance payment count 5 average words as a line. INDIVIDUAL EMPLOYMENT WANTED undisplayed advertising rate is one-half of above rate, payable in advance.

Box Numbers—Care of publication New York, Chicago or San Francisco offices count as one line.

Discount of 10% if full payment is made in advance for 4 consecutive insertions.

Individual Spaces with border rules for prominent display of advertisements.

The advertising rate is $8.00 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.

An advertising inch is measured ⅞" vertically on one column, 3 columns—30 inches—to a page.

T.W.

NEW ADVERTISEMENTS received by July 15th will appear in the August issue subject to limitations of space available.

MEN WANTED

POSITIONS OPEN

We can place: MANAGER two set woolen mill in Canada; worsted cloth mill superintendent large plant, fine salary; general superintendent rayon cloth mill; woolen mill manager women's wear, attractive opening; assistant general manager worsted cloth mill $7500-$10,000; night superintendent southern cotton mill; dyestuffs manufacturer, salesman and demonstrator combined; assistant superintendent southern cotton weaving plant, preferably textile school graduate; school instructor for machine shop practice; assistant instructor cotton picking, carding, combing, spinning textile school; industrial engineer, salary $8,000 to $10,000; stylist narrow fabrics for New York City; carpet mill designer; time study man.

OVERSEERS FOR FOLLOWING DEPTS: final inspecting and passing of all fabrics, large worsted cloth mill, splendid salary; woolen carding; woolen carding and spinning combined; knitting spring and latch needle machines; woolen weaving, automatic looms; finishing (2) for woolen women's wear; dyeing woolen and worsted piece goods; rayon weaving; dyeing cotton piece goods $5,000-$7,000; worsted weaving, burling and mending combined; cotton piece goods finishing, pure filled and back filled work; cloth room rayons and cotton; warp preparation rayons.

SECOND HANDS FOR FOLLOWING DEPTS: woolen spinning, mules and frames; rayon weaving; package, knit goods dyeing.

FINISHED CLOTH INSPECTOR woolens and worsteds, Mid West; jacquard mechanic for knitting mill in Mid West; foreman reed maker for southern states; garnett foreman-fixer; fixers Scott & Williams hosiery machines; Draper loom fixers; jacquard loom fixers; Brinton fixer.

CHARLES P. RAYMOND SERVICE
Incorporated
Over Fifty Years in Business
294 Washington St., Boston 8, Mass.
Telephones: Liberty 2-6547—2-6548

WANTED
TEXTILE SUPERINTENDENT
to take charge of small New York Mill. Thorough understanding of dyeing, finishing, starching, tentering, calendering of sheetings and print cloths. Knowledge of repairs secondary. Steady position. State experience, salary desired, references, etc.

P-9137, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED
Rayon plant superintendent for 300 Draper Looms. Must be practical, thoroughly experienced and able to assume full charge all manufacturing operations. Excellent opportunity for right man. Answers treated in strictest confidence. Write stating age, qualifications, background, telephone, salary to
ABDON TEXTILES INCORPORATED
Fall River, Mass.

SALES REPRESENTATIVE WANTED

Excellent opportunity for technically trained representatives to sell textile testing instruments. Large unit sales. Protected territory on a commission basis. Give particulars.

RW-9060, Textile World
330 W. 42nd Street, New York 18, N. Y.

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

THE PROCTER & Gamble Company, Textile Research Department, has excellent opportunities for Chemical Engineers and Textile Chemical graduates, preferably with 2-5 years' textile laboratory or cotton dyeing and bleaching experience. These positions consist of research and development work in the Procter & Gamble laboratories and technical service work in the textile industry. Replies held in confidence. Textile Research Department, The Procter & Gamble Company, Cincinnati 17, Ohio.

WANTED: INDUSTRIAL Engineer for large rayon manufacturing and processing plant. College graduate in Mechanical or Industrial Engineering preferred. Must have adequate training in time and motion study, job analysis, work simplification, and several years' experience in the textile industry. Successful applicant will be required to organize industrial engineering department, each work simplification to supervisory staff, and develop comprehensive work reduction program. Must have good personality and ability to work cooperatively with all levels of supervision and to assist in labor negotiations involving work loads. Only high-grade individuals need apply. Salary up to $10,000, depending upon proven ability to achieve desired results. Replies confidential. P 9207, Textile World.

POSITIONS WANTED

TEXTILE SCHOOL graduate, 20 years experience as foreman and superintendent in silk, rayon and cotton wishes position in Phila. or vicinity. PW 8007, Textile World.

TECHNICIAN, LAYOUT, Production man, 15 years diversified experience in plain and Jacquard weaving and knitting. P.T.I. graduate. Past employment consisted of direct contact with manufacturing and converting as well as supervision. PW 8802, Textile World.

PILE FABRIC Technician available for work in U. S. A. or foreign positions. Has practical and technical experience—well qualified and recommended. Speaks English, Spanish, and German. PW 8944, Textile World.

TEXTILE CHEMIST—Broad experience in dyeing and bleaching cotton, rayon and acetate piece goods; also pressured dyeing. Formerly overseer of laboratory and dyehouse of well known organization. Resin finishing experience. PW 9221, Textile World

PROFESSIONAL SERVICE

LANCASTER, ALLWINE & ROMMEL
Registered Patent Attorneys
Patent Practice before U. S. Patent Office, Validity and Infringement Investigations and Opinions. Booklet and form "Evidence of Conception" forwarded upon request.
Suite 448, 815-15th St., N. W., Washington 5, D. C.

POSITION WANTED

Rayon Broad Cloth Mill Superintendent desires connection with progressive organization. Thoroughly capable manager specialist in quality production. A technician, throwster and conversant in all departments. A loom man.

PW-9171, Textile World
330 W. 42nd St., New York 18, N. Y.

SUPERINTENDENT AVAILABLE

Broad experience all technical phases of manufacturing. Filament & Spun Rayon—Cotton—Blends. Textile education. A producer of Quality Cloth. Full knowledge of Cost and Budgetary Controls. Excellent references.

PW-9231, Textile World
330 West 42nd Street, New York 18, N. Y.

POSITIONS WANTED

WEAVING TECHNICIAN, Designer seeks connection in the woolen or worsted field. 16 years practical mill experience. PW 9184, Textile World.

MAN WITH over 12 years experience in braiding mill making venetian blind cord and other braids who believes in getting maximum production at a minimum of cost at all times and is now supt. Would like to contact party interested in establishing braid mill in best location in south. PW 9041, Textile World.

SELLING OPPORTUNITY WANTED

DO YOU have greige or finished goods which needs merchandising thru an excellent agent, or inventor? Many years experience converting and selling to dress, blouse, underwear, coat and retail trade. Many connections with converters who may be able to use your product. Particularly interested in novelty or staple fabrics in various weaves. RA 9235, Textile World.

BUSINESS OPPORTUNITY

For Sale—Here is an opportunity to own and operate a complete weaving mill for only $12,500. Equipment includes sixteen 72" 25 harness cassimere head looms, warp compressor with Reeves variable drive and modern creels, 2 quilling machines, 24-32" loom beams. Every machine in plant individually motor driven. Motors included and electric switches, approximately $5,000 of looms supplies and a complete stock of all other machine supplies. All equipment in good operating condition. Reason for selling due to changing product to narrow Draper loom. Arrange for inspection. BO 9238, Textile World.

DYE PLANT WANTED

Will buy or invest in a modern efficient piece dye plant for rayon and wool blended cloth. Give detailed description with type of major machines and buildings. State price or financial investment desired. Confidential.

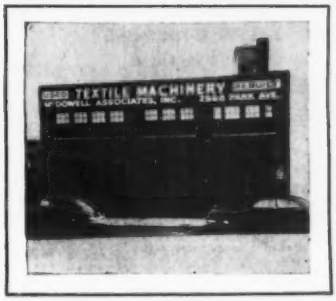
BO-9259, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED
Large engineering firm wishes to acquire several complete textile plants through purchase of (1) capital stock, (2) assets, (3) machinery and equipment, whole or in part. Personnel retained where possible, strictest confidence.
Box 1222
1474 Broadway New York 18, N. Y.

WANTED
Commission Weaving on narrow fabric bindings ¼" to 2"
COURTLEE MFG. CO.
BOX 20, VALLEY FALLS, R. I.

SPRAY PAINTING
One coat covers
Cuts labor costs in half
No interference with production
Inquiries solicited *References on request*
INDUSTRIAL SPRAY PAINTING CO.
Ceiling areas & chain link fences
WATCH HILL RHODE ISLAND

Auction Advertising—page 265



NOW AVAILABLE

McDOWELL ASSOCIATES

ONLY A PARTIAL LIST

DYEING AND FINISHING

1 BLEACHING UNIT, steel tank, 66" wide
1 UP and DOWN WET BRUSH 6/4
1 VERTICAL BRUSH, 6 roll, 68"
1 BRUSH with STEAMER, 2 roll, 66", mtrzd.
1 BRUSH and SANDING UNIT, 4 roll, 66"
1 CALENDER ROLLING HEAD, 48", heated rolls
1 CALENDER KNIT GOODS, 54" with steam box
2 FRICTION CALENDERS, 3 roll, 43½"-50"
1 CALENDER 3 roll, 50" screw and lever
1 CALENDER 7 roll, 50" screw and lever
1 CALENDER 3 roll, 100" screw and lever
1 CALENDER HYDRAULIC 3 roll, 60"
1 CALENDER EMBOSSING 54"
1 CRAB 4 bowl, tanks 70" wide, vacuum slot, pump, motors, etc.
1 CARBONIZING CLOTH DRYER 70" with acid tank
1 SEMI-DECATUR 72", pump, blanket and motor
1 FULL DECATUR 72", pump, cooling rack, etc.
1 DEWING MACHINE 66", feed tank and trough
4 DOUBLING, WINDING and MEASURING UNITS 50" - 60" - 72" - 80"
1 SET 21 DRY CANS 72" horizontal
1 SET 31 DRY CANS 96" horizontal
1 LOOP DRYER, revolving stick, 8 fan
1 PIN TENTER DRYER 78"
1 PIN TENTER DRYER 64"
1 SKEIN DRYER CONTINUOUS 108" wide
1 RAW STOCK DRYER 3 tier, 72"
3 DYE KETTLES SS 6'
1 DYE KETTLE SS Lined 9'
1 PACKAGE DYEING UNIT 80 spindles SS
4 "FLEET LINE" SS STOCK DYEING KETTLES 100# ea.
3 SKEIN DYEING MACHINES, HOIST TYPE, 20-40 stick units
2 EXTRACTORS 48" COPPER BASKET, mtrzd.
2 EXTRACTORS 72" COPPER BASKET, mtrzd.
1 EXTRACTOR 96" COPPER BASKET, mtrzd.
1 VACUUM EXTRACTOR 78", pump and motor
3 FOLDERS 1 yard, 40"-56"-60"
3 FULLING MILLS, DOUBLE COMPARTMENT, 20-40 stick units
2 INSPECTING and MEASURING MACHINES 60"-100", forward and reverse motion
14 JIGGS 50", Stainless Steel, tilting expanders, etc.
8 JIGGS 60", SS Lined, tilting expanders, etc.
1 KAUMAGRAPH 66", complete, new unit
1 MEASURING ROLL 72" with 60 yard dial, swing folder, mtrzd.
1 MEASURING UNIT 66" 100 yard dial, mtrzd.
2 NAPPERS 72" SA 12-14 roll units
1 NAPPER 90" SA 20 ball bearing working rolls
2 NAPPERS 80"-90" DA, 24 roll
2 NAPPERS 90" DA, 36 roll
1 PALMER-TENTER-QUETSCH UNIT 50"
1 PALMER-TENTER-QUETSCH UNIT 60"
3 POWER PERCHES 72" roll, clocks, mtrzd.

COMPLETE MILLS

5,000 spindle COTTON MILL
20,000 spindle FRENCH WORSTED UNIT
9 SET WOOLEN MILL

2 POWER PERCHES 66" table type, mtrzd.
1 PRINT MACHINE 4 color 66"x36" dia. cylinder
2 ROTARY STEAM PRESSES 66"-60" DOUBLE BED
6 THREAD, POLISHING and DRESSING UNITS, 2 brush and 3 brush, 38"
1 REEVES #3 CLASS E ENCLOSED DRIVE
1 WOOL SCOURING UNIT 5 bowl, 54" with Dryer
1 WOOL SCOURING UNIT 5 bowl, 48" with Dryer
1 SCOURING BOWL 48"x27" long, complete
1 SKEIN SCOURING UNIT 2 bowl
1 SKEIN SCOURING UNIT 3 bowl
1 SCUTCHER 60", brass beater and scroll rolls
1 SCUTCHER 66", brass beater and scroll rolls, vacuum slot, pump and folder
1 SEWING and ROLLING UNIT 56" goods with BATCHER, mtrzd.
5 RAILWAY SEWING MACHINES 40"-50"-52"-53"-66"
7 RAILWAY SEWING MACHINE 50" MERROW HEAD, mtrzd.
1 SHEAR 4 blade, BB 60", automatic seamless thru, mtrzd.
3 SHEARS model "B" double blade, 66½", list saving rests
2 SHEARS model "A" double blade, 66½", list saving rests
1 STEAMING, SHEARING and BRUSHING UNIT, hooked in tandem, consisting of 2 steamers, 2 double blade 66½" shears with list saving rests and single roll brush with folder
1 CARPET SHEAR 20' wide, double blade
1 HOT AIR SLASHER 92" width, double size box, complete
1 SLASHER 3 drum, 57", size box and mixing kettle
1 SLASHER 5 drum, 64½"x24" dia. squeeze set, reeves and motor
1 SQUEEZE SET 2 roll, 50", mtrzd.
1 SQUEEZE SET 3 roll, 60", mtrzd.
1 SQUEEZE SET 2 roll, 72", hydraulic, with scutcher, mtrzd.
1 SQUEEZE SET 3 rubber rolls, 120" S & L Set
1 TENTER FRAME CLAMP 90'x52"
1 TENTER FRAME CLAMP 70'x80"
1 TENTER FRAME CLAMP 60'x73" with housing
1 TENTER FRAME PIN 30'x80"
1 TENTER FRAME PIN 60'x72"
4 TUBING, WINDING and MEASURING MACHINES 42"-45"-50"-60"
2 WASHERS ROPE 8', log rolls, 18" dia.
3 WASHERS ROPE 102" width, log rolls, 18" dia.

WEAVING (LOOMS)

150 DRAPER "E" 32" belt driven
100 DRAPER "E" 36" belt driven
50 DRAPER "X" 36" mtrzd.
100 DRAPER "E" 40" mtrzd.
50 DRAPER "K" 40" mtrzd.
150 DRAPER "XD" 50" dobbies, mtrzd.
70 DRAPER "X" 48" dobbies, mtrzd.
40 DRAPER "XP" 60" mtrzd.
24 DRAPER "D" 20 har. belt driven
56 DRAPER "D" 81" gem head, mtrzd.
150 C&K S-5 54", auto., 2 x 1, dobbies, mtrzd.
12 C&K 56", auto., 4 x 1, dobbies, mtrzd.
35 C&K 56", S-3, auto., 2 x 1, dobbies, mtrzd.
12 C&K 72", 4 x 4 box, 25 har., belt driven
8 C&K 82", 4 x 1 auto., 25 har., mtrzd.
8 C&K 92", 4 x 1 auto., 25 har., mtrzd.
14 C&K 92", 4 x 4, 30 har., mtrzd.

CARDING AND SPINNING

150M-automatic 8¾" BOBBINS
1 CARD CLOTHING TENSION MACHINE 60"
4 WORSTED IRON CARDS, 2 cylinder, 60" wide
1 WOOL CARD IRON, 4 cylinder, 48x60 TAPE CONDENSER
3 TAPE CONDENSERS 48" BB ECCENTRICS, 96 ends
1 GARNETT 3 cylinder BB 30x60
2 GARNETTS 2 cylinders ea. BB 20x60
3 INTERSECTING GILL BOXES, 2 spdls.
10 MULES GP 360 spdls. ea., 2½" gauge, 14" BOBBIN
8 MULES GP 320 spdls. ea., 3" gauge, 14" BOBBIN
2 MULES 480 spdls., ea., 1¾" gauge, 8¾" BOBBIN
2 WOOL OPENERS 48" double cylinders
1 FEARNAUGHT IRON MIXING PICKER 48x48
3 WOOL SPINNING FRAMES 4½" gauge, 192 spdls. ea.
6 WOOL SPINNING FRAMES model "E", 5" ring, 120 spdls.
1 ABBINGTON 1946 model CARD STRIPPING SYSTEM, 57 nozzles, complete.
3 TWISTERS 80 spdls. ea., 3" gauge, mtrzd.
2 TWISTERS 100 spdls. ea., 5½" ring, mtrzd.
10 TWISTERS 200 spdls. ea. 2¼" ring, mtrzd.
1 FOSTER #101 CONE WINDER, 100 spdls., mtrzd.
1 FOSTER #130 COMBINATION CONE and TUBE WINDER, 100 spdls., mtrzd.
3 UNIVERSAL #90 BOBBIN WINDERS, mtrzd.
2 ABBOTT #64 CONE WINDERS, 80 spdls. ea.
4 WARPERS PIN TYPE 9'3", beamers, compressors, tracks.

Also parts and supplies such as Blowers, Card Clothing, Doffers, Motors, Expander rolls, etc.

McDOWELL ASSOCIATES, Inc.

2568 Park Avenue — Bronx 51, New York

Tel.: MElrose 5-6741

SEARCHLIGHT SECTION

OPENING CARDING & SPINNING

1—Whitin Bale Breaker with Feeder Hopper
1—Picker Hopper 40"
3—Kitson Finisher Pickers, 1 beater
2—Kitson Breaker Pickers, 2 beaters
6—Whitin Spinning Frames, 224 spdls, 3¼" ga.
7—Whitin Roller Cards 48"-27 doffers
14—Whitin D3 Combers 12" coilers
4—S-L Twisters, 132 spdls, 2½" ring, motor
5—Whitin Twister, 240 spdls, 2" ring
1—Worsted Card 54" x 80", metal
1—Noble Comb 40-44
1—P & S Cone Willow w/Extractor Trunk
2—Whitin Drawing Frames, 6 deliveries, 12" coils, Model-1940

WARPING AND WINDING

1—Johnson Slasher 60", 7 cylinders w/ Creel
4—Universal #90 winders, 20 spdls.
1—Foster #101 winder, 100 spdls, 7" wooden cone
2—BC Warpers HS 54"-w/432 end creel
2—Universal #44 Roto Coner, 120 spdls.
1—Foster #102 winder, 100 spdls, 7" traverse

COMPLETE MILLS

Cotton Plant (Long Draft) 22,000 spdls. 610 looms
Cotton Sheet Plant, 30,000 spdls, 425 looms
Cotton Yarn Mill, 10,000 spdls.
Sheeting & Print Cloth Mill, 8,000 spdls. 216 looms
Worsted Weaving Plant—24 looms
Nylon Hosiery Mill—45 gauge
Underwear Knitting Plant—32 knitters
Label Weaving Plant
Rayon Throwing Plant
Rayon & Silk Weaving Plant—95 looms
Rayon Dyeing & Finishing Plant
Worsted Yarn Spinning Mill—11,200 spdls.
Woolen Blanket Mill

LOOMS

140—Draper K, 47" r.s., dobby
150—Draper XD, 50"-1947
64—C&K 2x1, 52" auto.-motor
35—C&K S3 58" 2x1 auto.
100—Draper E, 40" motor
20—C&K C4 60" 4x1 motor
58—Draper Model X, 43" r.s. motor
325—C&K S5 56" auto.-motor
64—C&K Label Looms 30' Long-Jacquard
23—C&K W3 Looms, 72" motor-1947

DYEING & FINISHING

1—V.V. 60" 7 drum Boil-off
1—Friction Calendar, 3 rolls, 80" w/ motor
1—Set 21 dry cans, 88", complete
2—V.V. Dye Jiggs, 50" wide
2—Cottage Steamer, 8'16" x 16'
1—V. V. Sem-Decator, 72"
1—P.S.-Loop Dryer, 15" W, 40' L
1—V. V. Embossing Calendar, 54" 2 roll, #4
11—Werner Dye Jiggs-S.S. 50"-60"-72"
1—V.V. Singer—60" 4 burner w/motor
1—Set of 8 copper dry cans, 72"
1—V.V. Palmer Tenter Unit, 40' long, 60" wide
1—Textile Tenter Frame, 80" x 80' complete
1—V.V. Tenter Frame, 20' x 60"
1—Embossing Calender, 51" 2 rolls
1—P&W Semi-Decator, 60" width
1—Werner Hydraulic Padder, 60"
1—V.V. Extractor, 54"
1—W&J Tenter Frame, 80'x80"
1—V.V. Hydraulic Calender—50"
140—Copper Rolls—45" & 46" x 15" and 16"

PRINT MACHINES, 6 - 8 - 12 colors

REMEMBER

Republic Textile

EQUIPMENT COMPANY

40 WORTH STREET NEW YORK CITY

Purchase and Sale of Used Machinery

REFINANCING • APPRAISALS • PURCHASE • SALE • LIQUIDATION OF MILL PROPERTIES

PREPARATORY

1—Sargent 42" Picker Feed
2—Harwood 60" Garnett Feeds
1—Hunter 7 section Raw Stock Dryer
1—Sargent 48" Rag Duster
1—D. & F. 7' all iron Cone Duster
1—Schofield 48" automatic Duster (Box)
1—C. & M. 48" Fearnaught Mixing Picker
1—C. & M. 24" Shoddy Picker
1—Schofield Hard Waste Pickers 18"x30"
1—P. & S. 24" Shoddy Picker
1—Schofield 42" Carding Rag Picker
1—Clark 48" 6 bar Mixing Picker (New)
1—S. F. 36" Lumper, ball bearing
1—Kitson 36" S.L Bale Breaker
1—Taylor - Wadsworth Backwasher and Dryer
1—Hunter 3 cyl. Garnett 30"x48"
2—P. & S. Camelback Lappers
1—S.L. 4½" Ring Tape Dr. Twister
2—Garnett Breasts 18" x 60"
4—R. & L. 100# S.S. Stock Dye Kettles

WINDING

UNIVERSAL #50 & #90 WINDERS REBUILT TO ORDER
2—Universal #8 Winders
1—Foster Model 12, 80 sp. Skein to Cone Winder, Mtr. dr.
3—J. & B. Jackwinders
3—O. L. No. 20 Hi-Speed Cop Winders
2—Worcester Warp Comp. Spoolers

WARPING AND WEAVING

1—S. F. Warp Compressor
1—Globe Ball Warper
4—Altemus or Cleveland type Warpers, rebuilt to order
2—Altemus Long Chain Reamers
1—Worcester Cone Creel, elec. stop motion, magazine type, 176 active ends
4—C. & K. 82" 4x1 automatic Looms
12—C. & K. 82" (4x4 Box) Box Looms
3—L. & G. Chenile Cutters

FINISHING

1—Perkins Cloth Piler, 72" traverse
1—Hunter No. 10 Fulling Mill
3—Phila. Skein Scouring Bowls
1—Fletcher 60" Mtr. Dr. Extractor
6—Tolhurst Mtr. Dr. Extractors 40"-96"
1—Butterworth Rope Squeezer
1—C. & M. 170" Rolling Teasel Gig
1—P. & W. 66" Double Shear
1—P. & W. 66" Plush Shear
1—Gessner 66" Heavy Duty Press
1—P. & W. 66" 4 cyl. Brush & Sander
1—Yorkshire Crab 72"—3 bowl
1—K. & B. 72" Full Decator
4—Hermas, Werner Mtr. Dr. Inspecting Mach. 72" 96" wide
1—80" Insp., Brushing and Roll-up Machine

MISCELLANEOUS

2—Sturtevant No. 2 Pumps
1—Brown Yarn Strength Tester

FRANK W. WHEELER CO.

1837 E. Ruan St. Philadelphia 24, Pa.

Phones: Jefferson 5-4771-4772

Reputable Dealers for over a quarter of a century

LOUIS J. WELSH, Pres. & Treas. — ROBERT H. WELSH, V. Pres. & Gen. Mgr.

JOHN J. McCLOSKEY, Inc.

MANUFACTURERS AND DEALERS

TEXTILE MACHINERY OF ALL TYPES

APPRAISALS — WOOLEN—WORSTED—COTTON — LIQUIDATIONS

NEW AND USED—REBUILT

Office Factory Warehouse: Collingswood, N. J. **Phone 5-0805**

AVAILABLE IMMEDIATELY

USED EQUIPMENT

ITEM R-B

Centrifuge or Whizzer

60" Basket
All Stainless Steel
Automatic Electrical Control

ITEM K-L259

Dye Kettle for Raw Stock Riggs & Lombard

4 Spindle - Capacity 295#

ITEM N-RC2

2 Universal Winders

for Cone Winding
Model #44 Roto-Coners
120 Spindles ea. - 8" Traverse

ITEM N-RC1

1 Universal Winder

for Tube Winding
Model #44 Roto-Coners
100 Spindles - 6" Traverse

Collins & Aikman Corp.

Sales & Salvage Department

6th & Upland Aves.,

Upland, Delaware Co., Pa.

Phone—Chester 3-4167

MLC

Far-sightedness always pays dividends. Take the man who looks ahead to the SERVICE he wants from a machine, not only the PRICE. Such a man buys from "MLC" because he knows he gets certified value for every penny of capital invested.

HONOR ROLL

NEW ENGLAND CAPITAL HELPED DEVELOP SOUTHERN MILLS

Before the Civil War, the Cotton Industry gave the South 43½% of the property valuation of the entire country! The War reduced most planters to bankruptcy—but little by little the South took to cotton spinning, the promotion and erection of mills being financed by far-seeing New England merchants who saw the possibility of their development.

"Certified for Leadership"

ALL MLC "Certified" Opportunities

No. 12 of a Series

1—72" C & M 2-cylinder Brushing machine
1—41½" Knit goods calender, stainless steel rolls with motor Reeves drive
1—44" 2-roll Schreiner Calender
1—46" 7-roll Textile Hydraulic Calender
1—47" 3-roll Heavy Duty Friction Calender, motorized
1—51" 11-bowl Hydraulic Chasing Calender, 3 chilled iron steam heated rolls, 7 cotton rolls, one cast iron roll
1—61" Textile 3-roll Calender, gear motor driven with speed reducer
2—New 3-cyl. Set of 60x60 D&F Cards, with #25 breast, Bramwell feed, double apron, tape condensers
6—8 Head Whitin D-2 Combers with Roth Aspirators and 1 Ribbon and 1 Sliver Lapper, 10" Coiler.
5—C&M Flock Cutters
1—54" x 66" D&F 2-cylinder Iron Shoddy Cards with feeders
1—65" C&M Dewing Machine, motor driven
1—100 sp. Foster Doublers
1—60" Windle 3C Doubling and Boarding Machine, motor driven
1—61" F&W Doubling & Rolling-up Machine with clock
1—Set 6—18" Copper Tinned Siphon Dry Cans, with batcher
1—Set of 31-40" face Butterworth Dry Cans
1—Set 30 copper Dry Cans, 23" x 123", in 3 vertical stacks
1—96" P&S Loop Dryer
2—48" V. VL Stainless Steel Dye Jiggs motor driven
3—52" Werner S. S lined Dic Jiggs
6—6' Rodney Hunt Tru-shade s/s Dyeing Machines
1—36" C&M Duster
1—7' D&F Iron Cone Duster with Feeder
1—40" Schofield Box Duster with fan
1—48" Schofield Auto. Box Duster
8—18", 26", 32", 48", 54", 60" Extractors.
3—10", 42" E&H Flat Folders with take-up stands
1—Rodney Hunt M3, 2 string fulling mill, belt driven
10—40", 65" card and Napper Grinders
1—83" Roy Napper Roll Grinder
100—40" Draper Model K 20 Har Dobby Looms
99—153½" reed speed space Model E Draper Automatic Looms with lacey tops 3 bank stop motions, warm take-up, belt driven
50—44" cloth width Draper Mod. E Auto. Rayon Looms, 4 harness cam motions, motor driven, rebuilt 1947
40—47½" r.s. Draper Model K 20 harness Dobby Looms
100—52" r.s. C&K 2x1 Auto. Silk Looms. 16 harness, motor driven
4—60" r.s. C&K 4x4 Looms, 20 harness dobbies and 1304 hook Jacquards, motorized
58—43" r.s. Draper Model X Looms, with 39" sand rolls, Brown 4 harness tops, motor Driven
20—54" Draper Model E. Looms, with 16 and 20 harness double index dobbies, motor driven.

PRINTING EQUIPMENT

2—NEW 60" R. B. F. 6 Color Printing machines suitable for large pattern work
2—NEW 50" R. B. F. 12 Color Printing machines

W-3 LOOMS AND SUPPLIES

23—New 72" W-3 C&K 4x1 box, 25 harness Looms

COMPLETE MILL UNIT PROFIT OPPORTUNITIES

* 3—Six to Fourteen set Woolen Yarn Mills
* A Woolen Piece Goods Finishing Plant
* 3—Worsted Units
* 6—Cotton Mills, 3,000-100,000 Spindles

5600 Spindle Cotton Mill Balance on #40's Combed Yarn
9500 SP. Cotton Mill with 70 Draper Broad Looms
* 105 Looms Narrow Fabric Weaving Plant for Ribbons, Tapes and Labels. Complete with Warping, Dyeing and Finishing Equipment

400 Needle Hosiery Mill
30 Loom Label Weaving Mill

PRICED RIGHT

96—Hopedale Rayon Looms weaving 40" width cloth, motor driven. Reconditioned 1947.
4—High Speed Clutsom Shuttleless Narrow Fabric Looms, motor driven with supply of beams and spare parts. Operated six months.

20—54" Draper Model E Looms with Lacey tops, motor driven
12—70½" r.s. C&K 4x4 Looms, 25 harness, motor driven
6—82" C&K 4x1 Auto. Looms, 16 harness, motor driven
8—82" C&K 4x1 Automatic Looms, 25 harness, motor driven
1—Schofield Lumber
1—48" C&K 4x4 box Loom, 25 harness, belt driven, friction clutch
14—54½" C&K Box 20 & 25 Harness Dobby Looms
16—72" Draper Mod. D 16 Harness Looms
40—88" H.S. Draper Mod. L. Looms
2—74" Heavy Duck Looms, roller top
14—82" C&K 2x1 automatic Looms, 8 harness cam motion, motor driven
8—100 C&K 2x2 Box Auto. Looms with Baker 3-mix attachments, 25 harness gem heads
6—110" C&K 4x4 Box Looms, 25 harness, belt driven
3—66" P&W 60 & 100 yd. Measuring Machines, belt driven
1—70" King & Gerber Tubing Machine with Veeder-Root counter
2—240 SP. J.&B. 1⅞" Ga. Mules
2—240 Spindle J.&B. 2" Gauge Mules
2—New 360 Sp. D&F Mules, 2⅛" gauge
3—360 sp. D&F Mules, 2¼" gauge, 1946
7—61", 66", 72", 80" Single & Double Acting Nappers
75—New Leland & Westinghouse ½ and 1 HP 3/60/220 V Heavy Duty Motors. Also various size Rebuilt Motors
1—30 x 30" Mezerra Wool Opener
1—48" D&F 2-cyl. Wool Opener with Feeder
7—52", 65½", 66", 70", 86" Voelker and Gessner, single and double bed Rotary Cloth Presses.
1—48" C. D. Sargent Burr Pickers
3—48" & 54" Fearnaught Pickers
1—66" Rodney Hunt 2-roll Puddler, motor driven, 1947
1—Rodney Hunt Acetate Presetting Equipment
4—42" 2 and 3 roll Padders
1—76" 3-roll Padder
1—72" 2-roll Quetch with flat folder, Reeves drive and motor
4—50 spindle Lindsey-Hyde Adjustable Reels
4—82", 92", 96", and 100" D&F Reels, with creel, back stand, neck reed, warp reel beamer and warp compressor
1—50" Hermas Shear with C&M Stitcher
1—63" Textile Finishing 4-burner Gas Singer
8—New 120 sp. D&F 6½" gauge spinning Frames
14,268 sp. Mason, Whitin, F&J and Saco-Pettee 2¾" and 3" gauge band driven Spinning
3—60" P&W Single Blade Woolen Shears
1—66" Parks & Wilson single Blade Plush Shear
11—66½" P&W 2-blade Shears
1—76" C&M Double Blade Shears
1—80¼" P&W Single Blade Shears
1—66" Johnson 7-can Silk and Rayon Slasher, with s s drums, quetch, stretch control, Taylor instrument control on the cylinder, motor driven
1—Cameron Model 26 Slitters, motor driven
1—12" Firsching 20-knife Slitting Machine
2—Lowell 2-cylinder Slashers
1—40" Textile Clip Tenter, 60" opening with Hopslope
1—66" C&M Single Brush type Tiger
1008 Sp. S.L. 3" Ring Band Driven Twisters
3—80 Spindle Hopedale Band Driven Twisters 4½" ring, 5⅜" ga. Belt driven
1—180 Sp. Draper 2¼" Ring Wet Twisters
1—114 Sp. Whitin 3" Ring Wet Twister
1—220 Spindle H&B 1⅝" ring Wet Twister
2—8-string Hemmer Wool Washers
7—100 Sp. Foster Model 12, 12A, 21A Tube & Cone Winders
1—90 Sp. Foster Model 30 Cone Winder

MANY OTHER UNITS WITH PROFITABLE PRODUCTION POSSIBILITIES. PLEASE OUTLINE YOUR REQUIREMENTS. SEND FOR COMPLETE DETAILED LIST OF MACHINERY FOR SALE.

MACHINERY LIQUIDATING COMPANY

A Dealer of Recognized Reliability

MLC

31-33 WEST 42ND STREET — NEW YORK 18, N. Y.
DOMESTIC — TELEPHONE PEnnsylvana 6-0814 — EXPORT

WAREHOUSES: Paterson, N. J., 9 Godwin St., Tel. SHerwood 2-0373—Hawthorne, N. J., 35 4th Ave., Tel. HAwthorne 7-9661

SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY, ACCESSORIES AND MILL SUPPLIES

MLC

SEARCHLIGHT SECTION

TYPICAL *Eagle Economy* OFFERINGS
IN EXCELLENT MACHINERY AND COMPLETE PLANTS

DYEING, FINISHING AND PRINTING MACHINERY

1—Textile Ager, 18' long, 50" wide, M.D.
1—Perkins Calender, Hydraulic, 3 roll, 50" M.D.
SETS of Dry Cans, S.S. & Copper, from 40" to 144"
3—P&S Loop Dryers, 20'-40' long, M.D.
16—Morrison Jiggs, 50" all S.S. tanks, rubber rolls
2—V. V. Padder, 2 roll, 60" M.D.
2—V.V. Quetsch, 2 roll, 60" M.D.
8—Print Machines, 1-10 colors, 40"-60"
2—1 yd. and 1-¼ yd. flat folders
1—10 arm Cascade Skein Dyeing Machine
1—Butterworth 60" steam-out frame
1—V.V. Calender, hydraulic 3 roll, 50", M.D.
1—Butterworth Schreiner calender 42" M.D.
EXTRACTORS from 40" to 70"
1—V. V. Embosser, 60", 2 rolls, M.D., (new)
2—Davis & Furber 80" D. A. 36 roll Nappers
1—V.V. Palmer Quetsch, 60"
2—C&M Singers, 60"
1—P&S truck skein Dryer, 9' x 7' x 5'

SPECIAL

1—V.V. Tenter frame, 50' L., 60" W; housing; new s.s. clips with spring tops.
1—V.V. Decating Machine, 72"W, double perforated cylinders complete with Nash pump and motor (new)
1—Perkins bin piler, automatic, 1947 unused
1—National Loop Dryer 30'L Revolving Poles, Modern Design. (1944)
1—Parks & Woolsen 80" examining, rolling, and folding machine. (1946)

WEAVING & SPINNING

33—C&K W-3-72"
12—C&K 4x1 92" M.D.
45—S-4 C&K, 54" 4x1
580—Draper Model E
4—D&F 3 cylinder waste cards, 48x48
3—Barber-Colman Tying-In Machines, L.S. (1946)
100—C&K S-6, 56" (some New)
1—Lowell Stasher, 60" W, 2 cans 5' and 7', complete with drive.
75—S-3 C&K 50", 2x1
48—C&K; 100 Draper Mod. D., 50"
24—Whitin spinning frames, Long Draft
36—Saco-Lowell Cards, 40", 12" coilers
40—Whitin, Woonsocket and Platt cards, 40"
4—Winders, Models 101 and 102

WORSTED AND WOOLEN EQUIPMENT

8—D. & F. Worsted Cards, 54" W., 2 cylinder.
4—Prince-Smith Twisters.
1—3 bowl scourer, 39'L. 72"W., M.D. 12 Gill Boxes
3—D & F cards, 3 cylinder, 60" x 60", all iron.
8—D&F Spinning frame 120 sp., 6½" ga. (1946)
14—D. & F. Mules large package, 360 sp., 2½" ga. (1947)
1—Fearnaught Mixing Picker
2—S.A.C.M. scouring trains, 34" H., 27'6" L., 62" W.

COMPLETE COTTON MILLS

5,000 to 30,000 spindles; conventional, long draft, combed and carded, with and without weaving

COMPLETE WOOLEN AND WORSTED MILLS

We are interested in purchasing single items to complete plants.

Financing, Appraisals and Liquidations of Mill Properties

Eagle INDUSTRIES INC.

110 WASHINGTON ST. NEW YORK 6, N. Y.

DIGBY 4-8304-5-6 CABLE: EAGLENDUS

ABOVE ALL FOR VALUE

FOR SALE

26—Whitin WET Tape Drive Ring Twisters 264 sp. ea. 3" Ga. 2" Ring. Motor Drive.

7—S-L Tape Drive Twisters 156 sp. ea. 5" Ga. 3½" Ring. Motor Drive, 1928.

40—Draper Tape Drive Twisters 96 sp. ea. 5" Ga. 4" Ring. Motors, 1926.

18—Atwood Model #10 Twisters 100 sp. ea. 7" space, 4" Eadie Rings, Age 1948.

8—Universal #44 Roto-Coners — For cotton, wool or rayon.

1—Rayon High Speed Warper with Sipp-Eastwood Magazine Cone Creel, 816 working ends.

J. H. WINDLE & COMPANY

Hunter C. Motley, President

Telephone GAspee 1-6464

231 South Main St., Providence 3, R. I.

MILLER MACHINERY CO.

66 RAILROAD AVE. PATERSON, N. J.

Tel. Sh 2-5467-8

Used Textile Machinery and Supplies

BOUGHT AND SOLD

Warpers • Winders • Quillers Looms

NEW MACHINERY FOR SALE

IN OPERATION, BUILT 1948

60 S 6 C & K Looms complete with all new auxiliary machinery

DYEING MACHINERY

1 Hercules Extractor 54"
1 VV Tenter Frame 40'
1 Butterworth T.F. 80'
4 Three (3) roll Padders 45"
1 Roll Padders 76"
2 Tubers
1 Butterworth 44 Can Dryer 50'
55 Dye Boxes
1 60" Cutter—Perkins

LOOMS

30 Draper Looms 47½" R. S.
12 Draper Looms 55" R. S.
14 Draper Looms 80½" R. S.
24 C & K 2x1 Automatic 72" R. S.
22 C & K 4x4 72" R. S.
1 C & K 4x1 Automatic 56" R.S.
12 Staffords 2x1 53" R. S.
20 C & K 4x1 56" R. S.
8 C & K 4x4 54" R. S.

WORSTED MACHINERY

1 Foster Cone Winder 80 Spindles
1 Whitin-Schweiter Auto Quiller 33 Heads
18 Saco Lowell Gill Boxes
Saco Lowell Weigh Boxes
Hall & Stell Intermediates
Whitin Finishers
1 Proctor Raw Stock Dryer
5 Prince & Smith Cap Twisters
3 Easton & Burnham Spool Winders 100 Spindles each
6 Lowell & Prince & Smith Draw Frames
2 Warp Compressors & Creels, 42 ends for Warp Rolls
1 Beam Warper 92"

SILK AND RAYON MACHINERY

3 #50 Universals
20 #90 Universals
8 Sipp Warpers
8 Sipp Winders
4 Hermas Inspection Machines

We have in stock G. E. & Westinghouse Loom Motors from ½ H.P. to 1½ H. P.
2 International electric time clocks with racks

STAVE & ZISBLATT—Used Textile Machinery

106 KEARNEY ST. PATERSON, N. J. P. O. Box 1413

Phone ARmory 4-7486

DYE SPRINGS

MANUFACTURED IN ALL THE METALS

EXPERTLY RE-WOUND AT A REAL SAVING

SOLD IN GOOD USED CONDITION

WALTER S. GATES

LAKE ORION, MICH.

L. J. McCAFFREY & SON, INC.

AT REDUCED PRICES

500,000—14" Heddles, Flat, ⅜ & 7/16' Eyes.
710—Frames, 80" - 81" - 99" - 110"
200,000—K A Drop Wires, Open & Closed.
2,500—Worsted, Reducer Bobbins, 9 x 4½"
50,000—8¾" Auto, Loom Bobbins. Refinished.
500—Loom Beams, 40" - 44" - 46"; 18" x 20" Hds.
Univ. Mag. Creel, 1,200 Live Ends

P. O. Box 495 Pawtucket, R. I.

HOSIERY MILL MACHINERY

Complete Warehouse Stocks

Export Trade Specialists

MORRIS SPEIZMAN CO., Inc.

508 W. 5th St. Charlotte, N. C.

Phone 4-5546

Put this MACHINERY & EQUIPMENT Right into PRODUCTION!!

CONERS

20 Universal #50, Gear Gainer, motorized, 220 volts, 3 phase, anti-wear Tensions, 3-30 Tapir Cones, in excellent operating condition. Motorized.

30 SAME AS ABOVE EXCEPT BELT GAINER

8 With Pineapple attachment

6 FOSTER MODEL 75-A For COTTON; Motorized, complete with Waxing Attachments.

TWISTERS

15 Atwood Monarch 1938 D. Deck Twisters

208 Spindles Each, 8 Oz. Capacity. 2 Motors Per Machine, 3 Phase, 220-440 Volts. Excellent Bobbin Equip.

BATTENS

All spaces. Send your specifications. We can supply your needs.

BRUEGGER TWISTS

3000 adjustable for rayon or silk.

1 lb. package steaming shafts, 30,000. 4½" St. Steel head. 4⅜" Traverse in 2" Bar.

PHONE 3-7497 — *Wm. Rabinowitz & Sons* — PHONE 3-7498

214-222 HAMILTON STREET · ALLENTOWN, PA.

FOR SALE

COCKER CREEL and SLASHER

Built 1944—Eleven cans, 30" diameter x 60" length, 15 PSI steam pressure. Designed for standard cotton system beams.

15 HP, 550 V, 3 phase 60 cycle motor driving variable voltage D.C. generator.

Four section creel with 900 running ends, horizontal cone mounting and disc tensions.

FS-9225, Textile World
330 W. 42nd St., New York 18, N. Y.

FOR SALE

Repeaters, Lacers Card Cutters Jacquards of all description, Steel Heddles & Lingoes

EUGENE SECKLER
96 No. 7 St., Paterson, N. J.

TRIANGLE OFFERS

1 BRUSHER, 68" C&M vert. 4 brushes 2 mtrs.
1 CALENDER 50" 3 bowl Butterworth, chain drive-motor.
1 CALENDER 60" Textile 3 roll Friction
1 CARD 60x60 3 cyl Iron Whitin '26 mot. brst.
1 CARD, Sample 11" main cyl 30", 16" doffer
1 CREEL S-Estwd 730 live ends 3¼"Z cone
1 DECATER (Semi) P&W 50" rayon, with pump, motor and blanket
1 DOUBLING, Measuring & Examining—60"
30 DELIVERIES DRAWING, Whitin, 6 del. per frame, metallic rolls, 12" coilers
5 DRY CANS, Butterworth SS 50x23" Vertical
1 DRYER, 72" Sargent raw stock
1 DYE BECK, SS 8' wide, with motor
1 DYEING, Skein 28 dick K W hoist type, mtr.
7 DYE BOXES SS 12'x9' with reels, 1948
4 DYE JIGGS 48" VV wood SS lined mtrs.
1 EXTRACTOR 26" American with motor
2 EXTRACTORS 40" Basket, Tolhurst
1 EXTRACTOR 60" Basket All SS w. mtr.
2 EXTRACTORS 48" copper basket Tolhurst
1 FOLDER, C&M Silk folder 50" worm drv.
1 INSPECTING machine 60" C&M rebuilt
100 LOOMS, Draper 37" RS Duck 2 harness
100 LOOMS Model K Draper 40" RS 20 harn.
58 LOOMS, Draper 42" RS with motors
90 LOOMS, Draper 45½" RS Hopedale-rayon
250 LOOMS, 77" RS Draper XD 1942 20 harn.
108 LOOMS XD 72" RS 3 yrs old EWSM
16 LOOMS, 76" Mod. D 16 harn. Gem head mtr.
24 LOOMS 81" Mod. D 2x1 w. Tem 20 harn.
16 LOOMS 48" RS C&K 2x1 12 harn. auto. mtr.
24 LOOMS 48" C&K 4x1 auto. 20 harn.
32 LOOMS 52" C&K 2x1 16 harn. Gem Head
16 LOOMS 52" C&K 2x2 4 bank 1200 hook
88 LOOMS 57½" S-3 & S-4 complete
21 LOOMS 60" C-4 auto. 4x1 Jacquards
120 LOOMS S-6 & S-5 54" RS complete
40 LOOMS 46" Stafford Shuttle changing auto.
16 LOOMS 72" C&K 4x4 mtr. 600 H. Jacq.
29 LOOMS 72" W-3 4x1 25 harn. auto let-off
12 LOOMS 72" W-3 New 4x1 25 harn.
10 LOOMS 80" 4x4 C&K 30 harn Gem Head
20 LOOMS 82" C&K 4x1 Veribest 25 harn.
10 LOOMS 92" W-3 1937 40 25 harn. mtrs.
40 LOOMS 92" 4x4 Gem head C&K 25 harn.
6 LOOMS 100" C&K 4x1 Box 25 harn. auto.
4 LOOMS 110" 4x1 Veribest 25 harn. 1933
2 LOOMS 9' Broadlooms Jacquard 12 4 -stat.
2 MANGLES 3 and 5 bowl water mangles 50"
1 MEASURING & Inspecting Machine 60"
1 NAPPER 80" Woonsocket 24 roll dble act.
1 PADDER 50" 3 roll 9" dia. rolls
2 PICKERS 24" Dodge rag pickers, mtr.
1 PRINTING machine RBE 40" 3 color
1 QUETSCH 60" Morrison 2 roll
1 QUETSCH 50" 3 roll rubber screw & lever
12 ROVING Frames H&B 160 sp. exc. 5½" gge
1 SCOURER 2 bowl P&S for wool skeins
1 SCUTCHER Leyland 50"
5 SHEARS 45 & 48" Hermas 4 blade
1 SHEAR C&M 4 cyl. shearing mach. 66"
1 SINGER 4 burner textile mach. w. mtr.
1 SQUEEZE Roll set 8"x72" rubber
30 SPINNING Frames F&J 252 sp. 2¾ gge.
24 SPINNING Fr. Whitin Mod. A 2¾" gge
68 SPINNING Fr. long draft 2½" rz. H&B
12 SPOOLERS S-L 100 & 120 sp. ea.
2 SOAKING Machines Johnson 3 arm
1 SOAPER 3 sec. sq. rolls, reel 30x64"
1 STEAMER, Skein 2'x7'7" x 4'4"
1 TENTER¼ 60 Pin tenter, hsng. mtr.
1 TENTER VV 50" x 72" mtr. drvn.
1 WARP TYING Mach. B-C Port. #J-16
1 WARP TYING B-C 4E tying-in mach.
1 WARPER, 84" Sipp, mtr. drvn.
1 WARPER, HS Sipp, Mag. Creel 1006 live ends
10 WARPERS, Entwistle Ball
1 WARPER, Sipp 72" 400 pin creel
1 WARPER-WINDER UNIT Sipp 83" 1947 complete, 200 end creel, el. stop motion, 80 sp. winder.
1 WASHER, 66" continuous washer
2 WINDERS #102 Foster 80 sp. 7" trav.
2 WINDERS #101 Foster 80 sp. 2 mtrs.
62 WINDERS, #90 Univ. indiv. mtr.
16 WINDERS, #50 Univ. 6 sp. ea.
12 SPOOLERS, S-L 100 & 120 sp. ea.
2 SOAKING Machines Johnson 3 Arm
1 SOAPER 3 sect. sq. rolls, reel 30x64"
1 STEAMER, Skein 2' x 7'7" x 4'4"
1 TENTER, 60" Pin tenter, hsng. mtr.
1 TENTER VV 50" x 72" mtr. drvn.
1 WARP TYING machine, B-C Port. #J16
1 WARP TYING B-C 4E tying-in mach.
1 WARPER, 84" Sipp, mtr. drvn.
1 WARPER, H.S. Sipp, Mag. Creel, 1006 live ends
10 WARPERS, Entwistle Ball
1 WARPER, Sipp 72" 400 creel
1 WARPER-WINDER UNIT, Sipp 83" 1947 Complete 200 end Creel electric stop motion and 80 spindle winder
1 WASHER, 66" continuous washer
2 WINDERS, #102 Foster 80 sp. 7" trav.
62 WINDERS, #90 Univ. indiv. mtr.
16 WINDERS, #50 Univ. 6 sp. ea.

Above is partial list only. Write for List 410 for Dyeing and Finishing, or List 475 for other Textile Machinery. Narrow Fabrics List 310 now available

TRIANGLE PROCESSING MACHINERY CO., Inc.

Specializing in Export & Domestic Production Machinery

313 STRAIGHT ST. *Telephone:* VAn Houten 4-1818 PATERSON, 3, N. J.

Domestic **Industrial Plants Corporation** Export

DEPARTMENT

PAUL F. LOWINGER & COMPANY

90 West Broadway Phone REctor 2-3990 New York 7, N. Y.

USED AND RECONDITIONED

TEXTILE MACHINERY and SUPPLIES

We buy and sell all types of Textile Machinery and Equipment ranging from individual machines to complete plants. Our activities comprise all branches of equipment.

for SPINNING and WEAVING

as well as Dyeing, Printing and Finishing

of Cotton, Wool, Silk and Synthetic Fibres

We Invite Offers and Inquiries

Over 35 years of specialized experience in appraising and liquidating plants of all kinds, PLUS a thorough knowledge of the foreign textile producing centers enables us to do a first rate consulting engineering job.

Liquidators and Exporters Complete Plants Our Specialty

"CONSOLIDATED" OFFERS

1—Cavagnero 2-Roll Hydraulic 61" Embosser.
4—Morrison 60" Stainless Steel Lined Dye Becks.
1—Johnson 60" 5-cylinder Slasher.
35—Draper XD 81" Looms.
1—Reiner Ribbon Warper.
8—60" Stainless Steel Cans.
1—Proctor & Schwartz 2-cylinder Garnett.
1—Cameron 60" Slitter.
1—Van Vlaanderen 40'—60" Tenter Frame.
30—Draper XD 81" Looms.
20—C & K 60" C-4 Looms.
2—C & K Wilton Carpet Looms.

WE WILL BUY YOUR IDLE AND SURPLUS EQUIPMENT
From a single item to a complete plant
SEND US YOUR LISTINGS

CONSOLIDATED PRODUCTS CO., INC.
13-16 PARK ROW, NEW YORK 7, N. Y. Phone BArclay 7-0600 Cable Address: Equipment, N. Y.

COMPRESSORS VACUUM PUMPS
NEW & GUARANTEED REBUILT
Your favorite make in a guaranteed Re-Built Stationary—Portable
SALES OR RENTAL
AMERICAN AIR COMPRESSOR CORP.
48th & Dell Ave., North Bergen, New Jersey
N. Y. Phone Ch 4-7665 N. J. Phone Un-5-4848
Special—18x7 IR Vacuum Pump ER—617 CFM with 20 HP. 440v Motors

1—New 64" Beamer, for Dye House, M.D.
1—50" Inspection Machine M.D. for Dye House.
1—New 64" Hermas Meas. & Inspection, M.D.
3—Meas. & Inspection Machines, Motor Driven.
2—Extractors, 26" & 48", Motor Driven.
1—Set 20 Cans Copper—1—Gimp Machine, M.D.
We Buy Textile Machinery for Spot Cash
A. & M. BLANK CO., INC.
49 State Street Paterson, N. J.
Sherwood 2-1367 Lambert 3-9523

TEXTILE AUXILIARIES

MACHINERY FROM OUR STOCK:

1—60" Morrison 3 Roll Rayon Calender
1—60" Morrison 3 Roll Quetch
1—Textile F. Mchy 3 Roll Friction Calender—Hydraulic Heavy Pattern
4—50" Jigs Stainless Steel Lined with Tilting Expander—Like New
2—50 Jigs—Stainless Steel Lined
1—Set of 5-50" Stainless Steel Cans
1—90' Butterworth Swing Tenter with Schwartz El. Guides—Reeves Drive
2—90' Straight W & J Tenters
2—46" Simpson Winders—Steel Rolls
1—74" Scutcher & Swing Folder
1—44" All Iron Scutcher
1—62" Coating Head—Rotary Pump & Motor
12—Brammeli Feeds—Excellent Cond.—4 with New Steel Aprons—8 with Wood
2—60" Beamers Motorized
1—Saxmayer Bundling Machine
25—Copper Color Pans 52" Wide
2—18" x 18" Bleach House Squeezers
1—21" x 19" Bleach House Squeezers
1—62" 2 Roll PAD—with Foxboro Air Motors
1—50" 2 Roll PAD

DOMESTIC We Buy—Sell—Liquidate—Appraise EXPORT
TEL.: DEXTER 1-9650 — 1-8837 15-17 ORMSBEE AVE. WAREHOUSE: 44 CROSS ST.
PROVIDENCE, R. I.

REBUILT
ELLIOT and HALL HOOKER
38" jaws — yard fold — ratchet type — high or low back, as desired
REPAIR PARTS for E. and H. machines
LET US REBUILD YOUR OLD E. and H. FOLDER
HALL and JANSSON CO.
177 Highland St., Worcester, Mass.

FOR SALE

BTS

NEW cotton machinery—*immediate delivery*

Hopper Bale Openers.
40" Revolving Flat Cards.
Casablanca Long Draft Spinning Frames.
2—Foster Mod. 102 Winders, 90 spdles ea.
4—Rodney Hunt 8 string S.S. Dye Kettles Tru-Shade.
1—D&F 3 cyl. all iron, Wool Card 55"x60" (sacrifice price)
1—Hussong 250—500 lb. Skein Dyeing Machine, hoist type circulating system, complete with motor drive 220 V.

BOBBINS SPOOLS

BAY STATE TEXTILE CO.
220 HARTWELL STREET • FALL RIVER, MASS

BOILERS
2—605 HP
Wickes 3-drum low-head water tube 160 lb. Code boilers with Detroit Roto Stokers, all fittings, connections, pumps & breeching.
Also 8-Kewanee locomotive type Boilers, 63.7 HP, for 100 & 150 lbs. pressure. Various other boilers.
Contact
GREEN & REEDY
Phone 10-J Franklinton, Louisiana

WANTED

WANTED - CHEMICALS

Dyes—Colors—Pigments
Oils—Waxes—Drugs
By-Products—Wastes—Equipment
CHEMICAL SERVICE CORP.
80C Beaver St. New York 5, N. Y.

DYESTUFFS

Will buy your surplus and obsolete dyes and chemicals for cash.
NEW ENGLAND PRODUCTS CO.
91 Oliver St. Boston Mass.

WANTED

Worsted Top Dye Stainless Steel Tubs Complete Capacity 400 to 1000 lbs.

W-9175, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED TO PURCHASE

Small Complete Rayon Throwing Plant, for about 10,000 pounds monthly production. Must not be over 10 years old. All Machines individually motor driven and standing to be inspected. Not interested in dismantled machinery. Write offerings to

W-9249, Textile World
330 W. 42nd Street, New York 18, N. Y.

WANTED

Sample Card—Davis & Furber or similar make. State price and full particulars.

FRED WHITAKER CO.
Ridge Ave. & Scotts Lane
Philadelphia 29, Pa.

WANTED
1 RAW STOCK DYING MACHINE

Pressure Type
Cap. 200-300#

W-9174, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED
LABORATORY PRINT MACHINE

Suitable for sample swatches or color comparison in dye testing.
Send details and photograph
W-9073, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED
WOOLENS-WORSTEDS

Attention Woolen Mills: Close outs, seconds, of all types of woolens wanted. Cash if necessary.
LEON & DODELL, 270 W. 39, N.Y.C.

.. WE OWN AND OFFER FOR SALE ..

SPECIALISTS IN REBUILDING & RECONDITIONING LOOMS

MOTORS, GENERAL ELECTRIC, TEXTILE, NEW, ¾ H. P., 3/60/220/1200

12—Crompton & Knowles Quill Change Automatic Looms, 81½" between laysworods, now running as a 1x1 but is equipped with a 4 cell shuttle box and laysword to operate as a 4x1 loom. Individually motor driven. Has gears on both ends of the crankshaft eliminating the twisting strain on the crankshaft. Has extended bottom shaft to operate Jacquard Machine and 2 shift pick counters.

12—Model E Automatic Draper Looms, 53½" Reedspace, motorized, completely reconditioned with Stafford Cutter and Midget Feeler
8—Model K Automatic Draper Looms, 47½" Reedspace, 20 hook dobby motorized, completely reconditioned with feeler and cutter
10—Model E Automatic Drapers, 65½" Reedspace with lacey top for 5 shaft operation, completely reconditioned with feelers and cutters
30—Model E Automatic Draper 45½" Reedspace with lacey top for 5 shaft operation, motorized, electric stop motion, completely reconditioned with feelers and cutters
20—80½" Reedspace Draper Automatic Quill Change, Double drive looms, individually motor driven, with electric stop motion, some equipped with 600 hook double lift Jacquard machines

COMPLETELY REBUILT LOOMS

C & K 2 x 1, 54" Reedspace

C & K 4 x 1, 54" Reedspace with Multiplier.

Roller Bearing, Shock Absorber, heavy bar, individually motor driven, 20 harness dobby.

5—Crompton & Knowles Heavy Wool type, 2 x 2 looms, 66" between laysworods with 1½" x 2¼" Shuttle Boxes. Individually motor driven and extended bottom shaft to operate Jacquard Machine.

1—Tirrell Bobbin Stripper
1—Atwood 5Bs Doubler Twisters, motorized, 100 spindles, 6 Ends
20—#90 Universal Quillers and Coppers with and without bunch builders, completely rebuilt
Skein Winders—60, 80, 100 spindles
Eastwood and Sipp Warpers 84", 72"
1—New 60" Measuring Machine, variable speed
1—Victoray Photo Copy Machine with Automatic Timer
⅓ H.P. Used Textile Motors, 220 Volt, 3 Phase, 60 Cycle

FLOOR SPACE AVAILABLE

Crompton & Knowles and Draper parts, *new and used*
New Stafford Cutters **New Draper Motor Drives**

WE BUY & SELL
FROM A SINGLE ITEM TO A COMPLETE PLANT
***NEW and USED* TEXTILE MACHINERY**

Paterson Textile Machinery Exchange
INC.

formerly the Paterson Silk Machinery Exchange, Inc.

22 SPRUCE ST. SHerwood 2-1363-4-5-6 PATERSON 2, N. J.

!! S-6 !!
New C & K 2 x 1 Automatic, 56" R. S.

Immediate Delivery

!! XD !!
DRAPER 1948, 50" Cloth

36—C & K, Non-Auto dobby, 2x1 and 4x1, M.D., 54", 56" R.S.

70—C & K, Non-Auto, Gem Head, 2x1, M.D., 52" R.S. Priced for Quick Sale.

THEODORE BIALEK & CO.
396 STRAIGHT ST. **PATERSON, N. J.**
Phone: Lambert 3-5886-5887

We Are Offering for Immediate Delivery

1—40" Werner hydraulic Padder.
1—3 Roll 45" Motor Driven Quetch.
1—40" 60" Winsor & Jerauld Tenter Frame, complete.
1—V. V. 68" Palmer unit, complete with Quetch and Tenter Frame.
1—Rice Barton & Fales 2-Color 80" face Printing Machine.
2—50" Werner Dye Jiggs S. S. lined.
2—54" General enclosed gear S. S. lined Dye Jiggs.
1—Set of 9—20" x 60" Heavy Steel Dry Cans.
1—Set of 6 copper cans, vertical, Reeves & motor.
1—Set of 7 copper cans, horizontal, Reeves & motor.
1—Set of 3 copper cans, 36" diameter by 60" face.
1—50" V. V. Button Breaker.
1—48" Tolhurst Centrifugal Self Balancing Extractor, with motor on side.
1—64" Van Vlaanderen motor driven Tuber.
1—36" motor driven self balancing Hercules Extractor.
1—60" V. V. M.D. Horisontal Extractor.
2—60" motor driven Beamers.
2—60" M.D. Tubing & Measuring Machines.
1—60" Measuring, Inspecting & Tubing Machine, tube to tube, new, variable speed, forward, neutral & reverse.
60-80 gallon stainless steel steam jacketed Kettles.
30-60 gallon copper steam jacketed Kettles.
2—Motor driven 84 spindle Fletcher Duplex Machines.
1—58" Hermas Measuring & Inspecting Machine.
3—No. 50 Universal Coners.
1—U. S. 7½ H. P. Vari-drive.
1—Sterling 7½ H. P. Vari-drive.
1—Reeves 7½ H. P. Vari-drive.
About 5,000 R. S. high speed V. V. Clips.
Agitators of various sizes.
Motors of various sizes.
New & Used Electric Hoists.
1—50" Van Vlaanderen, 2 roll, motor driven Quetch.

Completely Equipped WOVEN LABEL LOOMS

SHerwood 2-7666-7 LAmbert 3-0278

Moe Blank
DOMESTIC TEXTILE MACHINERY EXPORT
523-525 E. 18th ST. PATERSON 4, N. J.

AGER, stainless steel Acid, & Wood.
AGER, tower, New & 2nd hand.
BOIL-off MACHINES, New, 3 & 5 drum.
BUTTON BREAKER, V.V. 60".
COLLOID MILL, PREMIER, 6".
DRYER, 84" loop, 10 fans, revolving poles.
DYE BECKS, Stainless steel 4' to 20', New.
DYEING MACHINE, Smith-Drum and Rochester.
FLAT FOLDERS, E & H adjustable.
INFRA RED Units complete with blowers.
JIGGS, 90" st. st. line, 60" st. & rubber lined.
PADDER, 90".
PRINT MACHINE, 10" sample or ribbon.
PRINT MACHINES, 6 & 8 color, 60" Waldron.
QUETCHES, 2 & 3 roll.
SCUTCHER, NEW.
SHEAR, Hermas, 4 knife 70" wide.
TENTER FRAME, Pin, W&J 40'x190" wide.
TUBERS, Paterson, variable speed motors.
WASHERS, slop, new, stainless steel.
WINDING MACHINES, NEW, loose interleafing.

CADGENE MACHINERY
5th Ave. & McLean Blvd.
P. O. Box 1206 Paterson 4, N. J.
Sherwood 2-6577

GAINES TEXTILE MACHINERY CO. INC.
Dealers in Rebuilt and Guaranteed
Yarn Winding and Spinning Machinery
141-45 WEST 17TH STREET NEW YORK 11, N. Y.

WE OWN AND OFFER
FOR IMMEDIATE DELIVERY

12—Looms C&K Automatic, for Rayon & Silk, 2 x 1, electric stop-motion, 16 harness, motor driven.
12—Looms C & K Automatic, for Worsted & Wool, 4 x 1, electric stop-motion, 25 harness, motor driven.
1—Foster No. 30, 100 spindles, motor driven.

ERICK-GROSS CORPORATION
P. O. Box 32 Bergenfield, N. J.
Phone—Dumont 4-4537

FOR SALE
1 Stack of Dry Cans, Complete Vertical Stands, Gears, Etc. 4 Steel Cans 140" face.
1 Set Butterworth Dry Cans, Complete Vertical Stands, Gears, Etc. 6 Stacks 57 Steel Cans 140" face.
2 Roll Mangle 146" face.
46 Copper Cans 40" face.
This equipment is in operating condition.
FS-9061, Textile World
330 West 42nd Street, New York 18, N. Y.

FOR SALE
ONE ALLEN HYDRAULIC LIFT KIER
size 8 x 10 with allied equipment. Purchased new October, 1945. Never used except for trial purposes for a period of about two weeks. Attractively priced for immediate sale.
HOLLINGSWORTH & VOSE COMPANY
East Walpole, Mass.

HOSIERY MACHINES
used and rebuilt
KNITTERS—RIBBERS—LOOPERS—
CYLINDERS—DIALS—TRANSFERS
HOSIERY NEEDLES AND PARTS
JOS. BRESANI
N. W. Cor. Hancock & Somerset Streets
Phila. 33, Pa.

Watch—
the *Searchlight Section*
for
Equipment Opportunities

At Your Service

—for bringing business needs or "opportunities" to the attention of men associated in executive, management, sales and responsible technical, engineering and operating capacities with the industries served by the following McGraw-Hill publications:

The SEARCHLIGHT SECTIONS of

(Classified Advertising)

American Machinist
Aviation Week
Business Week
Bus Transportation
Chemical Engineering
Coal Age
Construction Methods
Electrical Construction & Maintenance
Electrical Merchandising
Electrical World
Electronics
Engineering and Mining Journal
Engineering News-Record
E. & M. J. Metal & Mineral Markets
Factory Management and Maintenance
Food Industries
Operating Engineer
Power
Product Engineering
Textile World
Welding Engineer

For advertising rates or other information address the

Classified Advertising Division

McGRAW-HILL PUBLISHING CO., Inc.

330 West 42nd Street
New York 18, N. Y.

AT AUCTION—In Complete Liquidation

By Order of Dallas Manufacturing Company

VALUABLE INDUSTRIAL REAL ESTATE

MACHINERY; EQUIPMENT

DWELLINGS; LAND

and Trade Marks

of the

DALLAS MANUFACTURING COMPANY

AT HUNTSVILLE, ALABAMA

53,000 Long Draft Spindle, 1,274 Loom Cotton Mill.

Manufacturers of Wide and Narrow Sheetings.

To Be Sold — on the Premises

Wednesday and Thursday, July 20 and 21, 1949

Starting at 10:00 A. M. Each Day, Central Standard Time

The Real Estate

Main Mill—4 & 5 Story Brick Construction 620' x 102'—**282,540 Square Feet of Excellent Manufacturing Space.**
Warehouses 100' x 61' and 2—60' x 101'. **84,940 Square Feet of Excellent Warehouse and Storage Space.**

In Addition—Misc. Rooms and Buildings. 32,902 Square Feet of Space. **Total Floor Space—400,382 Square Feet**

Dwellings and Land—10 Single Dwellings, Fully-Equipped Recreation Building, Baseball Field and 10 Parcels of Unimproved Land.

The Machinery and Equipment

2 **Saco-Lowell Opening Units,** complete 1928, with new 1948 Condensers; Lowell 4-Sect. Grator Cleaner & Conveyor. **7 S-L Single Process B.B. 3 Beater Pickers 40";** Kitson Picker, Waste Machine, Auto Feeder & Condensers. S-L Elec. Lap Scale 1940; Lowell Air Filters No. 5.

150 Saco-Lowell, Pettee and Saco & Pettee Revolving Flat Cards 40", 12" Coiler. (All Equipped with S-L Ind. Continuous Card Stripper). **10 S-P and Saco & Pettee Drawing Frames,** 24 Del. Es. **11 S-L and Saco & Pettee Slubbers,** 12" x 6". **28 S-L, S-P and Saco & Pettee Intermediates,** 10" x 5".

56 Saco-Lowell 276 sp. Long Draft B.B. Tape Drive Spin. Frames, 1939, 3⅛" Ga., 2⅛" R. Paper Bobbin (M.D.). **40 S-L** and **S-P 224 sp. L.D.** Tape Drive Spin. Frames 2⅜" Ga., 1 7/16" R. M.D. **128 Saco & Pettee** 224 sp. 2¾" Ga., L.D., Spin. Frames 1 15/16", 1⅞" and 1 7/16"—Ring Size. (All above Frames using Parks Cramer Turbo Elec. Creel Type Traveling Cleaner System 1939.)

5 Barber-Colman 100-sp. Auto Spoolers 1926, Mod. KK, 3 Paper Tubes, 2 Wood Bobbins; **3 B-C Hi-Speed Warpers 1926,** with 432 End Creels. B-C Tailings Machine—Mod. TM20. B-C Warp Tying Machines. **B-C Portable Elec. Warp Tying-In Machine, Mod. LC, New 1949.** Warper Beams, Cheese Cores & Trucks.

312 Draper 40" Auto-Looms, Model X 1939 with Hunt 1946 Spreaders, M.D. **64 Draper 90" Auto Looms,** Mod. L, M.D. 364 Draper Auto-Looms, Mod. E 40", 48" & 54"; and **534 Draper Auto Looms,** Mod. L 63", 72", 81", 90", 99" and 108". (All with Stafford Thread Cutter.)

6 Lowell 2-Copper Cyl. Slashers, 7' x 5' with Head & Creel Stands, Size Box, Canopy & Blowers. Lowell Sizing **Kettles,** Bronzed Pump, Starch Hopper & Conveyor.

Hermas 2-Blade Cloth Shear 116", Four-Blade Shear 58" & Brushing Units. C & M Cloth Folders, Board Winding, Doubling and Inspection Machines. Lowell Die Stamping Machine, Bushnell Knuckle Cloth Presses and Railway Sewing Machines 48", 52" & 110".

Abington Triple-Vacuum Stripping, Cleaning & Conveying System, for 150 Cards, with Air Compressor. **Foster 60 sp. Cone Winder Mod. 101, M.D.** Univ. No. 90 Winder, Terrell Bobbin Stripping Machines; Armstrong Cot Buffing Mach.; Lang Yarn Conditioners; Yarn Reels, Grain Scales, H-S Yarn Tester and Yale & Comet Electric Hoists, Factory Trucks, Bobbins, Skewers, Shuttles, Air Hose, Raw Hide Picker Straps, Lugs, Parts, etc. **3250 Fibre Roving Cans 12".** American Moistening Co. Electric Humidifier Heads, Mod. Ideal Jr. (Throughout Plant). **2 Sullivan Angle Compound Air Compressors** 14 x 3⅝ x 10 with 75 HP Motors. **West.** and **G.E. 5 to 50 HP Motors,** all 550 Volts.

Machine, Woodwork & Pipe Shop Equip. including **Do All Metal Saw 16"; South Bend Q.C. Prec. Bench Lathe,** No. 444B; Engine Lathes, Bench & Upright Floor Drill Presses, Davis Keyseater No. 4, Kempsmith Univ. Miller No. 2; **Racine Utility Power Hack Saw** 1946; Fay & Egan Planer, Band Saw, Wood Turn. Lathe, Saw Table, Drills, Reamers, Taps, Vises, Chain Hoists, Oil Pumps, Lockers, Portable Elec. Drills, Hobart Arc Welder, **Economy Elec. Waste Baler 54",** Gasoline Driven Lawn Mower, etc.

Cafeteria Equipment, Office Furniture, Calculators, Adding Machines, Typewriters, Payroll and Billing Machines, Electric Drinking Fountains, Buick 1946 Sedan, GMC and **Dodge Trucks, Etc.**

WRITE FOR { *(a) Illustrated Real Estate Folder*
(b) Descriptive Illustrated Catalogue of Machinery and Equipment

Under the Management of

SAMUEL T. FREEMAN & CO., *Auctioneers*

Established Nov. 12, 1805

1808-10 CHESTNUT ST., PHILADELPHIA 3, PA.

50 CHURCH STREET, NEW YORK 7, N. Y. **80 FEDERAL STREET, BOSTON 10, MASS.**

UNBRAKO Square Head Set Screw with Knurled Cup Point.

UNBRAKO

SELF-LOCKING SET SCREWS

. . . they won't shake loose!

Their exclusive knurling—on the point—makes them exceptionally vibration-resistant, prevents "creep" and subsequent loosening of screws. "They won't shake loose", even under the most chattering vibration—help reduce downtime and repair costs, lowered production, poor deliveries and loss of customer goodwill. And it's next to impossible to twist their heads off.

Investigate these Self-Locking Set Screws, they're real "Vibration Insurance" for your production machinery.

Write for detailed, descriptive information today!

SPS STANDARD PRESSED STEEL CO.

BOX 571, JENKINTOWN, PENNSYLVANIA

"Serving Industry continuously since 1903 through Industrial Distributors"

INDEX TO ADVERTISERS

An * Indicates additional data is in the 1948-49 Pre-Filed Textile Catalogs and Textile World Yearbook

*Abbott Machine Co. 194
Abington Textile Machy. Wks. 235
Acme Knitting Mach. & Needle Co. 237
Aldon Spinning Co. 235
*Alemite Div., Stewart Warner Co. 140
Allegheny Ludlum Steel Corp. 80
*Allen Co. 251
*Allis-Chalmers Mfg. Co. 72, 73
Aluminum Co. of America. ... 128
Ambler Textile Machy. Co. .. 248
American Cyanamid Co. 54
American Gas Association. ... 26
American Leather Belting Assoc. 56
*American Moistening Co. 48
*American Monorail Co. 16
*American Paper Tube Co. 5
American Steel & Wire Corp. 93
American Viscose Corp. 191
American Woolen Co. 239
American Yarn & Processing Co. 253
Arkansas Co., Inc. 20
*Armstrong Cork Co. 22, 23
*Arnold, Hoffman & Co., Inc. 39
Atkinson, Haserick Co. 32, 33
Atlantic Rayon Corp. 228
Atlantic Steel Co. 267
*Atlas Electric Devices Co. 164

Bachmann Uxbridge Worsted Corp. 145
*Bahnson Co. 187
*Barber Colman, Textile Div. 245
*Barnes Co., Henry K. 223
Barnes Textile Associates Co. 246
Bemis Bro. Bag Co. 168
Boger & Crawford. 181
*Booth Co., Benjamin. 204
Buensod-Stacey, Inc. 197
Buffalo Forge Co. 212

Calco Chemical Div., American Cyanamid Co. 231
*Caldwell Co., W. E. 235
Carnegie-Illinois Steel Co. 93
Carrier Corp. 92
Celanese Corp. of America. ... 207
Century Electric Co. 45
Chattanooga Boiler & Tank Co. 70
Chicago Pneumatic Tool Co. 24
Clark Equipment Co., Industrial Truck Div. 224, 225
Clipper Belt Lacer Co. 247
*Cole Mfg. Co., R. D. 214
Colgate-Palmolive-Peet Co. 6
*Colson Corp. 213
Columbia Steel Co. 93
Container Corp. of America . 37
Cooper Co., Charles. 237
Corn Products Sales Co. 50
*Crabb & Co., Wm. 230
*Crane Co. 84
*Crane Mfg. Co. 223
*Crompton & Knowles Loom Wks. 40
Cross Cottin Mills Co. 19
Crucible Steel Co. of America 85
Czechoslovak Metal & Eng'g. Wks. 218

Dana Warp Mills. 235
Darnell Corp., Ltd. 208
*Dary Ring Traveler Co. 234
Dayton Rubber Co. 96
Diamond Chain Co., Inc. 86
Dietert Co., H. W. 219
Dodge Mfg. Co. 200
*Dommerich & Co., L. F. 38
Dow Chemical Co.,
Magnesium 179
Methocel 134
Saran Lined Pipe Co. 196
Dow-Corning Corp. 226
*Draper Corporation 1
Duesberg-Bosson of America, Inc. 149
*DuPont de Nemours & Co., Dyestuffs Div.
Inside Front Cover
Electrochemical Dept. 81
Multiple Fibers 8, 9

Edmos Products Corp. 205
Emerson Apparatus Co. 220
Eppenbach, Inc. 248
Eriez Mfg. Co. 151

Falls Yarn Mills. 220
Felters Co. 184
*Finnell System, Inc. 14
*Foster Machine Co. 58
Franklin Process Co. 57
*Fuller Brush Co. 155

Gardner-Denver Co. 95
Gates Rubber Co., The. 94
General Chemical Div., Allied Chem. & Dye Corp. 132
General Dystuff Corp. 77
Goodyear Tire & Rubber Co. . 11
Gulf Oil Corp.—Gulf Refining Co. 21

Harris Textile Machy. Co. ... 233
*Hayes Industries, Inc. 222
Hemphill Co. 209
Herrmann Roy, Dr. 220
Herr Mfg. Co. 227
Heineman Corp., O. Div. of Aetna Industrial Corp. 249
Hinde & Dauch Paper Co. ... 65
Holdsworth Gill Screw Co. 33
Houghton & Co., E. F. 165
*Howard Bros. Mfg. Co. 36
Hubinger Co., Inc. 253
*Hunter Machine Co., J. 130
*Huyck & Sons, F. C. 244
Hyatt Bearing Div., General Motors Corp. 136

*Ideal Machine Shops, Inc. 66
*Industrial Dryer Corp. 216
Industrial Ovens, Inc. 46
Interchemical Corp., Textile Colors Div. 211
International Salt Co., Inc. 30
*Iselin & Co., Wm. 47
*Ives Co., L. T. 239

*Jiffy Textile Marker Co. 252

Kaumagraph Co. 147
Kearny Mfg. Co. 254
Keever Starch Co., The. 241
*Kenyon & Son, D. R. 241
*Kohorn & Co., Ltd., Oscar. ... 12
Kovo, Ltd. 218

Lacy-Atherton & Davis. 252
*Lambeth Rope Corp. 229
Laminated Sheet Prod. Co. ... 254
*Lane Bros. Inc., W. T. 247
Lestershire Spool & Mfg. Co. 177
*Link Belt Co. 7
Lockwood Greene Engineers, Inc. 250
*Loper Co., Ralph E. 248
*Lowell Shuttle Co. 178
Lunkenheimer Co. 198
Luria Engineering Corp. 213

Macbeth Corp. 217
Maine Development Commission 268
Manhattan Rubber Div. 71
Marquette Metal Prod. Co. 126
Marsh Stencil Mach. Co. 253
*Mathieson Chemical Co. 2
M-B Products 242
*McBride, Ed. J. 170
McGraw-Hill Catalog Service 236
*Meese, Inc. 219
Mellor, Bromley & Co., Ltd. 220
Merrow Machine Co. 237
Micro-Lite Co. 202
*Milton Machine Works 218
Minnesota Mining & Mfg. Co. 188
Moisture Register Co. 255
*Monsanto Chemical Co., Merrimac Div. 62, 63
Phosphate Div. 171
Montgomery Co. 250
*Mt. Hope Machy. Co. 215

ATLANTIC STEEL COMPANY

Steelmakers since 1901

WAREHOUSE DIVISION

STEEL PRODUCTS FOR YOUR NEEDS

The Warehouse Division was established to serve the Southeast with ferrous and non-ferrous warehouse products. Atlantic Steel Company's 48-year experience, making steel from our open hearth furnaces to finished items of many types, stands behind the Division in its efforts to provide metal commodities and distribute them fairly and equitably.

TELL US YOUR SPECIFIC NEEDS

Write: **P. O. Box 1714**

Phone: **EMerson 3441**

ATLANTA 1, GEORGIA

The Southeast

LOGICAL REGION FOR YOUR INDUSTRIAL EXPANSION

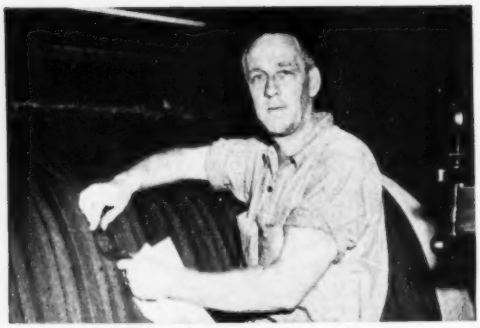
The list of new and expanded industries in the Southeast covers the widest possible range of enterprise. That's not surprising, because here there's *room to grow* —plus other definite advantages such as easy access to many kinds of raw materials, adequate labor resources, modern utilities and a climate that favors year-round operations.

Seaboard, serving this progressive area, looks forward to serving you, too . . . with its modern freight and passenger facilities so adaptable to every phase of your business. Choice plant sites along Seaboard's busy route are available now. A brief outline of your plans will bring you without obligation a factual, informative survey of one or more "likeliest locations" for your specific requirements. May we hear from you? Please address:

Dallas T. Daily, General Industrial Agent
Seaboard Air Line Railroad Company, Norfolk 10, Va.

SEABOARD
AIR LINE RAILROAD COMPANY

THROUGH THE HEART OF THE SOUTH



Typical of THE MEN WHO MAKE INDUSTRIAL MAINE

Truman Pease says:

"You hear a lot of talk about the attractions and glamour of working in big cities. Over the years, I have seen many of my friends pull up stakes and try their luck at city life. Then, later, I have seen these same fellows come back to Maine and heard them say: 'Boy, it's good to get back here and really live again!'

"I've come to the conclusion that there is no substitute for the happiness and contentment you get in living and working in a place you like. Yes, I'm glad I stayed in Maine.

"Take my work in the woolen mill. I have worked here for fourteen years and have thoroughly enjoyed it. I get real downright pleasure in seeing fine woolen cloth come from the mill and I take a great deal of pride in the part I do.

"I wouldn't trade my life in Maine for all the bright lights of the city. I have a 200 acre farm, keep a small herd of good cows and cut some wood on the side. Take it from me, Maine is a grand place in which to live, work and play."

Truman M Pease

Truman Pease is typical of thousands of Maine workers who take pride in their work and really enjoy life. Maine has what your industry needs. Nearness to the nation's biggest markets; year 'round production weather; moderately priced power; pure processing water; excellent transportation; fair taxes; no State sales tax; no State income tax.

If you are planning to move, expand or decentralize, it will pay you to investigate the industrial advantages of Maine. Write for free booklet, "Industrial Maine".

STATE OF MAINE TEXTILE INDUSTRY

MAINE DEVELOPMENT COMMISSION, 795 STATE HOUSE, AUGUSTA, MAINE

*Nash Co., J. M. 227
*National Aniline Div., Allied Chem. & Dye Corp. 27
National Plastic Products Co. 193
*Nat'l Ring Traveler Co. 235
National Tube Co. 93
Nopco Chemical Co. 49

Oakite Products, Inc. 215
*Onyx Oil & Chemical Co. 180
Orr & Sembower 229
Owens-Corning Fiberglas Co. 59

Paddock C., J. C. 214
Page Fence Association 246
Page-Madden Co. 210
Penick & Ford, Ltd. 229
Pennsylvania Salt Mfg. Co. 190
*Perkins & Son, B. F. 44
Pick Mfg. Co. 172
Pittsburgh Plate Glass Co., Paint Div. 221
Platt Bros. (Sales) Ltd. 31
Prince George Hotel 255
Prince, Smith & Stells 34
Process Heating, Inc. 251
*Proctor & Schwartz, Inc. ..42, 43

Railway Express Agency, Inc. 242
Railway Express Agency, Air Express Div. 166
Raybestos Manhattan Inc., Manhattan Rubber Div. 71
Red Ray Mfg. Co. 244
Reeves Pulley Co. 82
*Reiner, Inc., Robt. 199
Reynolds Metal Co. 29
Richmond Oil, Soap & Chem. Co. 223
*Ridge Tool Co. 186
*Riggs & Lombard, Inc. 55
Rome Soap Mfg. Co. 241
Rostan Machy. & Equip. Co. 217
Rumford Div., Heyden Chem. Corp. 183
Ryerson & Son Inc., J. T. 210

*Saco Lowell Shops 10
Sandoz Chemical Works 17
Saran Lined Pipe Co. 196
*Sargent's Sons Corp. 15
*Scholler Bros., Inc. 75
Scott & Williams, Inc. 69
Seaboard Airline R.R. Co. 267
Sherwin-Williams Co., Inc. 41
Sirrine Co., J. E. 254
SKF Industries, Inc. 74
Solvay Sales Div., Allied Chem. & Dye Corp. 153
*Sonoco Products Co. 143
Spadone Machine Co., Inc. ... 252
Square D Co. 167
Staley Mfg. Co., A. E. 64
*Standard Chemical Prod., Inc. 89
Standard-Coosa-Thatcher Co. . 83
Standard Mill Supply Co. 249
Standard Pressed Steel Co. 266
*Standard Soap of Camden 216
Steelcote Mfg. Co. 238
*Steel Heddle Mfg. Co. 13
*Stewart Iron Works Co. 254
Sun Oil Co. 124
*Supreme Knitting Machine Corp. 201

Tennant Co., G. H. 206
Tennessee Coal, Iron & R.R. Co. 93
Tennessee Eastman Corp. 203
*Terrell Co. 28
Texas Co. ..... Back Cover
Textile Banking Co. 232
Textile Machine Works ..87, 88
Tide Water Assoc. Oil Co. 91
*Tompkins Bros., Co. 239
Torrington Corp., The 67, 68
Tower Iron Works 78
Towmotor Corp. 189
Truitt Mfg. Co. 182

Union Special Machine Co. ... 61
U. S. Gutta Percha Paint Co. 35
U. S. Steel Corp. 93
*Universal Winding Co. 18, 156
Utica Novelty & Mill Specialty Co. 250

*Van Vlaanderen Machine Co.. 25
*Veeder Root, Inc. 79

WAK Industries 225
Walker Mfg. Co. Inside Back Cover
Warner & Swasey Co., The .. 53
Watson-Standard Co., The ... 243
Watson-Williams Mfg. Co. 255
*Wayne Mfg. Co. 223
*Westinghouse Electric Corp., Water Cooler 195
West Pt. Fdry. & Machine Wks. 76
Weston Electrical Instrument Co. 192
White & Co., Inc. 185
*Whitin Machine Works 51
Whitman Co., Inc., Wm. 240
Whitney Chain & Mfg. Co., The 90
Wildman Mfg. Co. 138
Willcox & Gibbs Sewing Mach. Co. 169
*Wolf & Co., Jacques 52
Wyandotte Chem. Corp. 60

■

PROFESSIONAL SERVICES

Barnes Textile Associates 246
Herrmann, Roy, Dr. 220
Lacy, Atherton & Davis 252
Lancaster, Allwine & Rommel .. 256
Lockwood Greene Engrs. Inc. 250
Loper & Co., R. E. 248
Sirrine Co., J. E. 254

■

SEARCHLIGHT SECTION
(Classified Advertising)

EMPLOYMENT
Positions Vacant 256
Selling Opportunities Offered . 256
Positions Wanted 256
Selling Opportunities Wanted. 256
Employment Services 256

SPECIAL SERVICES
Contract Work 256

BUSINESS OPPORTUNITIES
Offered 256

NOTICES
Auction 263

PROPERTY
Wanted 256

EQUIPMENT
(Used or Surplus New)
For Sale 257-265

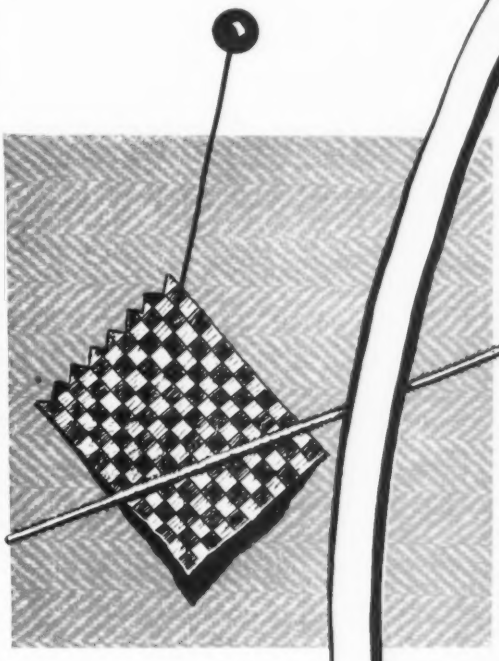
WANTED
Equipment 263
Miscellaneous 263

ADVERTISERS INDEX

Abdon Textiles Inc. 256
American Air Compressor Co. .. 262
Bay State Textile Co. 262
Bialek & Co., Theodore 263
Blank, Moe 264
Blank Co., A. & M. 262
Bresani, Joseph 264
Cadgene Machy Co. 264
Chemical Service Corp. 263
Collins & Aikman Corp. 258
Consolidated Products Co., Inc. . 262
Courtles Mfg. Co. 256
Eagle Industries Inc. 260
Erick-Gross Corporation 264
Freeman & Co., Samuel T. 265
Gaines Textile Machinery Co. .. 264
Gates, Walter S. 260
Green & Reedy 262
Hall and Jansson Co. 262
Hollingsworth & Vose Company 264
Industrial Spray Painting Co. .. 256
Leon & Dodell 263
Lowinger & Co., Paul F. 262
McCaffrey & Son, Inc., L. J. .. 260
Machinery Liquidating Co. 259
McCloskey Inc., John J. 258
McDowell Associates Inc. 257
Miller Machinery Co. 260
New England Products Co. 263
Paterson Textile Machinery Exchange 263
Rabinowitz & Sons, William ... 261
Raymond Service Inc., Chas. P. 256
Republic Textile Equip. Co. ... 258
Seckler, Eugene 261
Speizman Co., Inc., Morris 260
Stave & Zisblatt 260
Textile Auxiliaries 262
Triangle Processing Machy. Co. 261
Wheeler Co., Frank W. 258
Whitaker Co. 262
Windle & Company, J. H. 260

Warp's eye view of a WALKER HEDDLE

shows the way to better weaving



The broad base and smooth, parallel sides of Walker Heddle eyes assure your warp of free chafless travel. In addition, the eyes are cornerless at top and bottom — no oval or "V" shape — to give a broad flat base for warp travel.

The Walker "Streamlined Eye"* for cotton and rayons and the famous Walker wool eye for wool and worsted yarns gives you improved cloth quality, longer service and lower cost. Walker makes a complete line of straight, duplex and repair heddles including ⅛ turn, ½ turn and full open eyes. Highly polished shafts, crimped to your specifications, assure close, even nesting and minimum yarn bumping.

Write today for Walker's new folder describing these heddles in more detail. Ask also for free sample card of the type heddle you use.

WALKER MANUFACTURING COMPANY, INC.

ATLANTIC & RUTH STREETS, PHILADELPHIA 34, PA.

HEDDLES • HEDDLE FRAMES • REEDS

WALKER LOOM HARNESS

A big saving looms up...

When you lubricate with Texaco Stazon— it stays off the fabric

YOU'LL find that fabric comes off your looms faster, better and cleaner—free of damaging oil stain—when you lubricate with *Texaco Stazon.* This specially designed lubricant won't splatter, creep or drip . . . *stays on* the bearings—*stays off* the goods.

Texaco Stazon is an extremely stable lubricant that will not form gummy deposits. It is not affected by high humidity or extremes of temperature . . . is long-lasting . . . more economical to use. It is equally effective for lubrication of saddles, top rolls and roll stands.

Let a Texaco Lubrication Engineer show you how effective lubrication—*Texaco*—can increase efficiency and reduce costs throughout your mill. Just call the nearest of the more than 2300 Texaco Wholesale Distributing Plants in the 48 States, or write:

☆ ☆ ☆

The Texas Company, 135 East 42nd Street, New York 17, New York.

TEXACO

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY